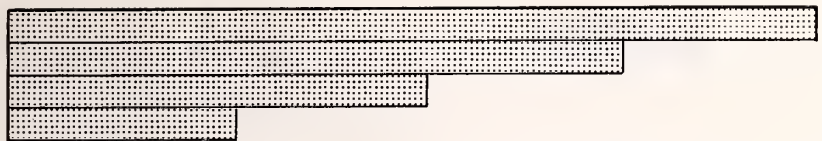


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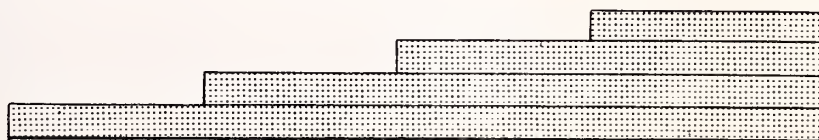
THE PROGRAM  
OF  
THE INSTITUTE  
OF  
INTER-AMERICAN AFFAIRS



THE INSTITUTE OF INTER-AMERICAN AFFAIRS

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THE PROGRAM  
OF  
THE INSTITUTE OF INTER-AMERICAN AFFAIRS

PRESENT STATUS

The present Institute of Inter-American Affairs was chartered by Congress as a wholly-owned Government corporation in an Act approved on August 5, 1947 -- Public Law 369, 80th Congress, First Session.

This statute directed the Institute to seek to strengthen friendship and understanding among the peoples of the American republics through collaborating with the governments of the other republics on "technical" programs and projects in public health, sanitation, agriculture, education and related fields. This work, however, the Institute was authorized to carry forward only for a period of three years -- through the fiscal year 1950.

The President's Budget for the fiscal year 1950 contains a proposed appropriation of \$5,000,000 to the Institute for the fiscal year 1950, which would enable the Institute to continue the 25 programs in the fields of public health, education and agriculture which it is now administering in cooperation with the governments of 16 of the Latin American republics, the work in these programs to be maintained on the same scale as that of the two preceding fiscal years. Unless new legislation is enacted by the Congress, the Institute will be required to terminate its activities and liquidate its affairs after expiration of the fiscal year 1950. This is specifically provided for in Section 4 of the Institute of Inter-American Affairs Act of 1947, which says:

"Upon termination of the corporate life of the Institute all of its functions shall be liquidated and, thereafter, unless otherwise provided by Congress, the assets shall be transferred to the United States Treasury as the property of the United States."

The President has, however, recommended to the Congress that the programs of the Institute of Inter-American Affairs be extended on a larger and more adequate basis.

## ORIGINS

The present Institute is the successor of two Government corporations (known as The Institute of Inter-American Affairs and the Inter-American Educational Foundation, Inc.), which had been chartered under the laws of Delaware under authority granted by Congress to the former Coordinator of Inter-American Affairs. The Coordinator's office (which later was renamed the Office of Inter-American Affairs) was established in the early years of World War II. The Office was administering a broad program designed to develop closer and friendlier relations between the United States and the other American republics. The two named corporations were organized to serve as the administrative mechanisms through which the United States could cooperate with the other American republics on technical programs and projects in the fields of health and sanitation, development of food supply, and education. Other corporations, now being liquidated, were organized under the laws of Delaware to administer certain transportation and radio programs, while other activities were administered directly by the Office.

While the improvement of the relations of the United States with other countries in the Western Hemisphere has been a long-standing objective of the foreign policy of the United States, the immediate impetus for the organization of the Office and the corporations was the urgent necessity for immediate improvement in inter-American relationships created by the war. It was therefore, at first, assumed that the activities of the Office and of the corporations could be terminated when the war was over. Even before the end of the war, however, it was forcibly recognized that these programs were building great good will for the United States, were proving themselves appropriate and flexible instruments for effectuating United States policy within the Hemisphere, and would probably prove uniquely useful in time of peace as well as in war.

It was after the war was over -- on August 31, 1945 -- that the information functions of the Office of Inter-American Affairs were transferred to the Secretary of State, by Executive order; and shortly thereafter, the Congress enacted the United States Information and Educational Exchange Act of 1948 to make permanent the information activities in Latin America which the Office had been administering directly and which had been transferred to the Secretary of State. It was also after the war was over -- on August 5, 1947 -- that the Congress created the present Institute of Inter-American Affairs, and directed it to take over the functions of the two named Delaware corporations. Section 2 of this 1947 Act directs that the purposes of the Institute shall be "to further the general welfare of, and to

strengthen friendship and understanding among, the peoples of the American Republics through collaboration with other governments and governmental agencies of the American Republics in planning, initiating, assisting, financing, administering, and executing technical programs and projects, especially in the fields of public health, sanitation, agriculture, and education."

Section 3 of the Act, however, granted the corporation succession only for a period of three years.

#### NATURE OF THE PROGRAM

The work of the Institute is confined to cooperation with the other American republics in the development of their basic economies. The early work of the Office of Inter-American Affairs made it quite clear that the strongest need of the Latin American republics was for assistance and guidance on what are, perhaps, the three most fundamental problems of any nation: public health, education, and food supply. It is to these objects that the recent work of the Institute has been confined, except for some incidental work on related basic national necessities, such as transportation and communication.

The concentration on the basic essentials has meant, in the case of the health and sanitation program, emphasis on the provision of safe water supply systems, the construction of sewerage systems, the construction and equipping of hospitals and health centers, the control of specific diseases, such as malaria, yellow fever, yaws and the dysenteries, environmental sanitation, health education, vital statistics registration, and the training of medical and nursing personnel. The education program has confined itself to elementary and secondary education, vocational training and teacher training. The agricultural program, particularly because of the requirements of the war period, has concentrated on the development of an adequate food supply, the introduction of better plant and animal varieties, soil and water conservation, agricultural extension work, the introduction of better tools and methods of cultivation, the organization of basic agricultural statistics, nutrition work and the training of personnel.

#### PROCEDURES AND BASIC PRINCIPLES

There are five essential points to note about the procedures that are followed by the Institute in the organization and operation of its programs:



(1) THE BASIC COUNTRY AGREEMENTS. Since the programs of the Institute are carried out in cooperation with foreign countries, each program must be embodied in an international agreement entered into between the Government of the United States and the government of the cooperating republic. These are known as the basic country agreements; they are negotiated by the American Ambassador to the cooperating republic (assisted by personnel of the Institute) and the Foreign Office of that republic. The agreements they arrive at are expressed in an exchange of diplomatic notes, and these notes recite that a further agreement will be entered into between The Institute of Inter-American Affairs and the appropriate Minister of the government of the cooperating republic that will spell out in greater detail the work to be performed and the procedures to be followed. Since these basic country agreements have the status in international law of executive agreements rather than of treaties, the individual agreements do not require Senate confirmation.

The launching of one of these cooperative action programs originates in a request by the government of one of the Latin American countries. On receipt of such a request, the Department of State determines whether it is desirable on political grounds to have United States participation in the proposed technical program in the particular country. The Department considers, besides the over-all factors pertaining to the development of inter-American relations and to the specific role of the proposed cooperating country, the evidence showing the attitude of the American Embassy in that country to the proposal and the views of the Institute's technicians as to the feasibility and general character of a program to implement the proposal. In formulating their recommendations to the Board of Directors of the Institute and to the Department of State, the officers of the Institute formulate priorities on the basis of the evidence concerning the need for the programs in the various Latin American countries, the degree of interest shown by their governments in initiating such work, the readiness of those governments to begin work at an early date, and the amounts of money they are prepared to contribute. The countries and the programs selected in any one year are a product of sifting and weighing all these considerations. The available funds, when apportioned among the most urgent activities in the countries most eager and ready to proceed, have always been spread too thin. In no single year in its history has the Institute had available sufficient resources to cooperate in all the countries that were ready to cooperate, on all the programs that were deemed urgently needed, or on an adequate scale.

In the typical case, the basic agreement will state the period during which the work is to be carried on (usually from 3 to 5 years), and will provide that the work is to be carried out through a cooperative service that is to be established within the appropriate ministry of the host republic, will define the status of the "field party" which the Institute is to send to the host republic, will prescribe the financial and other contributions to be made to the program by the respective

governments and the dates on which the installments are to be paid, will define the rates of exchange that are to be applicable between the currencies of the two countries for the purposes of the program, will establish procedures to be followed in the recruitment of personnel, will provide for the maintenance and accessibility of accounts and records, will define in broad terms the objectives to be sought and the work to be done, with a specific provision that the individual projects to be undertaken under the program shall be later defined in project agreements to be drawn up and agreed to by the Minister of the host republic and the Director of the Institute's field party, and, finally, will prescribe the disposition to be made of funds and property available when the work is completed.

The experience of the Institute has demonstrated that it is virtually impossible to carry on operations under basic agreements that run for only one year. The minimum effective period is 3 to 5 years, varying with the work to be done. In the first place, the fiscal years of many of the Latin American republics run with the calendar year, or otherwise differ from the fiscal year of the Federal Government of the United States. Therefore, while the amount of money that the United States will be able to expend on a program in a given republic may be known shortly after July 1 of a given year, the amount which the other government can contribute may not become known until shortly after the following January 1.

The nature of the work also makes impossible the planning of operations on an annual basis. Merely to secure the materials and equipment for various health and sanitation projects in the Amazon valley, for example, and to deliver them to the site, requires on the average one full year. Such work cannot be undertaken unless there is assurance that authority and funds will be available in succeeding years to complete the work. The construction of hospitals and health centers, the development of water supply systems, the construction of school buildings, the building and equipping of machinery stations or warehouses, or even the securing and installing of various types of machinery or equipment, may well become necessary so close to the end of one year that it cannot be undertaken unless the agreement runs for more than a year, or may be a process in particular cases that will itself consume 3 to 5 years.

The inescapable steps in negotiating an international agreement, in securing its approval at the various levels of government involved in the two countries, in preparing detailed program plans, and in securing the necessary transfers of funds, themselves consume so much time that operations are continually hamstrung when forced to slow down or stop periodically while annual agreements are renegotiated, reexecuted and reapproved.

The planning frequently needs to be done, although with some tentativeness, over a 10-year period, with operations assured for at least 3 to 5 years. The health and sanitation program in the Amazon valley of Brazil, to use the same example, requires:

- a. Stimulation of local officials to survey their needs and formulate their local programs for building and financing;
- b. Protection of the public health over wide areas by a coordinated system of sanitary works;
- c. Assistance to state and local legislative bodies in evaluating the worth and priority of projects in connection with preparations for construction;
- d. Guidance to the cooperative service in building and maintaining a competent and adequate staff, and providing an adequate budget;
- e. Planning a systematic work program;
- f. The timely procurement and transportation of construction materials, as well as the procurement of labor;
- g. Carrying on construction simultaneously at such geographical points as to minimize travel in investigations and supervision, and to reduce transportation costs;
- h. Executing projects at such locations and on such time schedules as to permit the logical and economic progression of specialized, skilled workers from one to another;
- i. Advance stock-piling of construction materials (which itself takes about one year for a 25-bed hospital or health center, and from 15 to 24 months for a public water system) to prevent idling of the entire crew of workmen for lack of some equipment or material that is delayed because of low stage in the river or for other causes.

(2) THE COOPERATIVE SERVICE OR "SERVICIO". We have mentioned that the basic agreement will require the host government to establish within its appropriate ministry (of health, of education or of agriculture, as the case may be) a cooperative service usually known as the "Servicio Cooperativo" or "Servicio". The development of this unique administrative device for inter-national cooperation is a significant achievement. The present practice varies slightly, country by country, but the following description is generally applicable to all of the 25 programs now functioning in 16 countries.

The Servicio is organized as an integral part of the ministry, substantially similar to a bureau in one of the departments of the Government of the United States. The Director of the Servicio is nearly always the chief of the field party sent by the Institute to the particular country to administer the participation of the United States in that program. He serves simultaneously as Director of the Servicio, answerable to the Minister, and chief of field party, answerable to the President of the Institute. His principal staff members and technicians will be made up in part of other members of the field party and in part of nationals



recruited from the host republic. The great bulk of the staff will be nationals recruited from within the republic. The Servicio is financed from a joint fund made up of an appropriation made by the legislature of the host republic and a contribution made by the Institute. In addition to the funds that the Institute contributes in this manner to the program of the Servicio, the Institute pays the salaries and expenses of its officers and personnel who are members of the field party.

Beginning with the definition of the program and objectives contained in the basic agreement, the Minister and the Director of the Servicio jointly prepare a detailed program and plan of operation. The specific work to be undertaken and the specific expenditures to be made are then defined in project agreements entered into between the Minister and the Director of the Servicio.

The genius of this administrative device lies in the fact that it not only makes possible, it actually makes unavoidable, the joint, daily, intimate cooperation between our officers and their officers, our technicians and their technicians, our administrators and their administrators, on common problems that arise daily and need to be solved daily.

The administrative structure of the Servicio goes entirely beyond the advice-giving situation. Instead, operations become jointly planned, jointly financed, jointly directed, jointly administered, and jointly defended against attack, under conditions in which the word "cooperation" reacquires its original meaning of "co-equal and joint effort".

During the six years of the Institute's operation, the device has gradually spread from program to program and country to country. It was in June of 1948 that the last two cooperating countries, observing its results in neighboring republics, asked for the establishment of the same structure for their cooperative programs. The technicians and field staff of the Institute number 325 and they are providing both technical and administrative supervision to approximately 9,500 persons, nationals of the other republics who are employed in the actual operations in the 16 countries.

This administrative structure is welcomed by the cooperating republics because it makes possible the most effective use of American administrative and technical skill on programs which are jointly controlled and which operate for the direct benefit of the host republic. It also makes possible the securing of an intimate knowledge of the problems of the other republic by the personnel of the Institute; it gives them the friendliest contacts with government officers and personnel and with many thousands of people who directly share in and benefit from the work being done.

It has been necessary for the Institute to insist that all of its officers and personnel scrupulously refrain from any participation or interference whatsoever in

partisan politics in the various republics. As a result of this policy, the Institute's programs have survived numerous, and in some cases frequent, changes of government. Successive Ministers, although of opposite parties, have repeatedly promptly announced their support of the Servicio's programs, have refrained from interfering with the Servicio's procedures for selecting personnel, and have welcomed the stability and continuity provided by the Servicio's operations. The only party that has consistently, in all the republics, criticized and opposed the work of the Servicios in those programs has been the Communist Party.

The basic plan of the Institute has been that the Servicio shall have this special relationship to the general work of the ministry of which it is a part: that it shall explore new problems, new areas and new techniques and shall then pass over for operation and administration by the regular branches of the ministry projects and activities which the ministry is prepared to take over, while the Servicio moves on to open up still newer areas. Pressures of various kinds from within the cooperating republic sometimes postpone transfer of responsibilities from the Servicio to other offices of the ministry but the transfers are continually being made. Sometimes this can be done rapidly, as when the Servicio constructs a sewerage works and safe water supply system for a medium-size town and arranges for the town government to take over and operate the system, providing assistance, training and supervision for a period of a year or more. In other instances, as in the organization of adequate public health activities over so large an area as the Amazon valley in Brazil, transfer of operations must be made gradually and the Servicio must be prepared to be involved for a period of ten years or more.

(3) FINANCIAL CONTRIBUTIONS. The foregoing discussion makes clear the importance of the two types of financial contributions which the Institute makes to the cooperative programs. The first is a stated contribution which the basic agreement will require the Institute to pay in installments to the Servicio. This program payment, supplemented by the contribution which the basic agreement will require the cooperating republic to make, provides the capital which the Servicio can expend on its work. In addition, the Institute undertakes in the basic agreement to pay all the salaries and expenses of the members of its field party which it sends to the republic to assume the posts of Director and staff members of the Servicio.

The contribution to the program funds of the Servicio is indispensable because it is that payment, more than anything else, which makes of the Servicio's program a joint and mutual enterprise of the two governments. That program contribution converts the Servicio projects into activities that are jointly financed. The practical and psychological significance of this joint financing is difficult to overestimate.

In the early years in each cooperating republic the financial contribution of the United States to the program funds has been substantially larger than the

contribution of the host republic. In every case, as the results of the work received recognition and acceptance, the host republic has increased its contribution, both absolutely and relative to the contribution made by the United States. The ratio of the United States' contribution to the contribution made by the host republic has changed from 20 to 1 or 10 to 1 to a present ratio of 1 to 3 or 1 to 4, with occasionally an even more favorable ratio; that is, instead of paying all or nearly all of the program costs, the United States is today paying from one-fourth to one-third of these costs. It will never become desirable for the United States to reduce its program contribution to the point where it becomes an insignificant proportion of the total program expenditure. If that were to be done, the activities would cease to be jointly financed and would soon significantly cease to be jointly controlled.

The chart on the following page shows the respective contributions to program funds made by the United States, the host republic and local governments within the host republic.

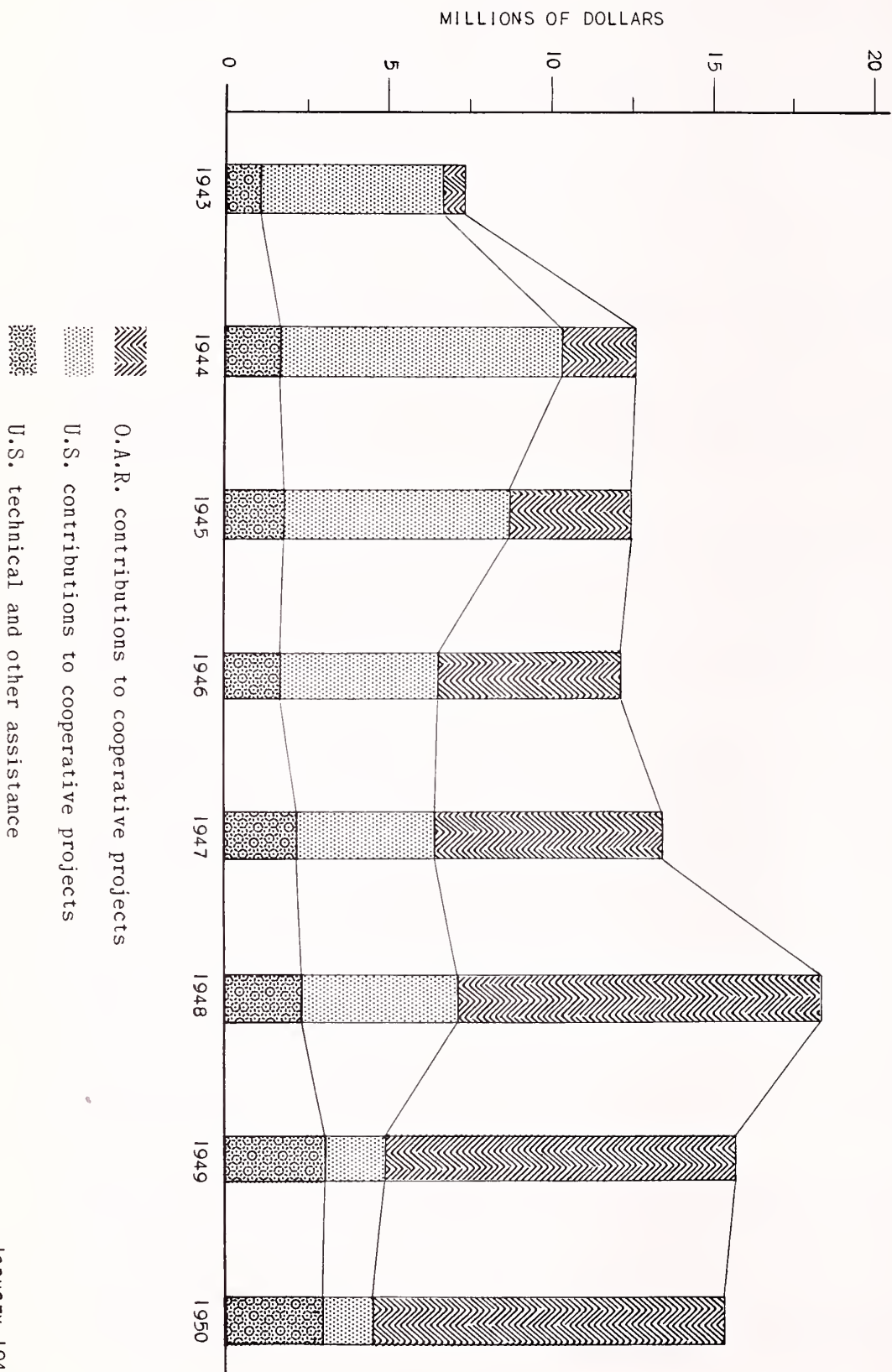
The second contribution made by the United States goes chiefly to pay the salaries and expenses of Institute personnel. The funds for these payments are not turned over to the Servicio but are expended directly by the Institute. Special projects, administered directly by the Institute rather than through the Servicio, such as the training program or the health movies, are also paid for from the assistance funds expended directly by the Institute.

(4) PROJECT AGREEMENTS. The sum of all of the activities to be administered by the Servicio is generally called its "program"; the separate works or activities included in the program are generally called "projects". Before any project is undertaken, a Project Agreement is drawn up between the Minister and the Director of the Servicio, which defines in complete detail the location, character and objectives of the work to be done, allocates money for the project and prescribes all the operating and administrative details. It is this step which enables both the Minister and the Director of the Servicio to maintain detailed control and responsibility for all of the work that is done and all of the money that is spent. Agreements for specific projects can be negotiated in appropriate detail three or four years after the basic agreement has gone into effect, so that both long-term planning and timely adjustment of the plan to the immediate situation are made possible.

The Institute Manual says that a Project Agreement must state the "who, what, why, when, where, and how" of the work to be undertaken. The typical Project Agreement states the problem and objective, specifies the location, details the plan of operation, specifies the financing, sets up the plan of administration, and specifies the responsibility for administration after completion, for each part of the work to be included in the project.

# THE INSTITUTE OF INTER-AMERICAN AFFAIRS

COMPARATIVE CONTRIBUTIONS BY UNITED STATES AND OTHER  
AMERICAN REPUBLICS FOR PROGRAMS NOW IN OPERATION





(5) COMPLETION AGREEMENTS. The basic agreement requires that upon completion of each project, a Completion Agreement shall be drawn up and executed by the Minister and the Director of the Servicio which shall provide a complete record of the work done, the financial contributions made, the problems encountered and solved and related basic data. The Completion Agreements have come to be recognized as an exceptionally useful device. Their preparation compels a retrospective analysis of the experience derived from building a project. In turn, they provide an exceedingly valuable basis for the information program that seeks to inform the citizenry of the host republic of the achievements of the cooperative program.

## PRESENT PROGRAM

The broad, basic objective of the Institute's program, in all three of its program branches -- agriculture, education, and health and sanitation -- is to raise the level of living of the people in the other American republics. People who are disease-ridden, undernourished and illiterate cannot effectively solve their own problems, personal or national. Only a healthy, well-fed and literate population can contribute to peace and prosperity.

The Institute views this broad, basic objective, therefore, within the framework of the larger objective of securing peace and prosperity in the Western Hemisphere. American foreign policy seeks to strengthen democratic institutions and democratic practices in all the American republics. The assistance which the United States is giving in these programs of technical cooperation is thus intensely realistic and practical: by raising the levels of achievement in agriculture, education and public health, it is building the kind of foundation on which a stable, democratic order can be maintained.

Only the highlights of the existing program will be summarized here. In addition, however, three illustrative cases are presented in greater detail in Appendix 1. Part A of that appendix discusses the existing health and sanitation program in Chile; Part B, the education program in Guatemala; and Part C, the agricultural program in Paraguay.

## PROGRAM IN HEALTH AND SANITATION

The Third Meeting of Ministers of Foreign Affairs for the American Republics was held in Rio de Janeiro in January 1942, immediately after the attack on Pearl



Harbor, at a time when every one recognized the necessity for Hemisphere solidarity and cooperation. One of the resolutions adopted at that meeting called for cooperation among the republics on health and sanitation programs as a measure that would assist in mobilizing the resources of the Hemisphere. The health and sanitation program of the Institute was an immediate response to this resolution.

The serious health problems of Latin America were highlighted by the dangers and the demands of the War. Eighty percent of the people were affected by intestinal diseases. One in every 10 persons suffered from malaria. Fifty-five per cent of the deaths were being caused by diseases that were preventable through vaccination, better sanitation and ordinary medical precautions. Death claimed, within their first year, 1 of every 5 babies born alive. Normal life expectancy was less than 45 years.

Since March 1942, when the program was inaugurated, the Institute has undertaken health and sanitation activities in 18 of the other American republics, all but Argentina and Cuba. The program is active today in 14 of the republics -- in all but Costa Rica, the Dominican Republic, Nicaragua and Panama. In these four cases, the Institute's withdrawal was made over the protest of the cooperating republic, but was necessitated by the need for spreading the inadequate available resources as effectively as possible.

By the end of June 1948, a little over 1940 separate projects and activities had been undertaken, of which slightly more than 1300 were completed and 634 were actively under way. A breakdown of these projects and activities is included in Section A of Appendix 1. It is estimated that these activities have benefited over 23,000,000 people, or 1 out of every 6 Latin Americans.

The program has placed in operation 107 health centers which are headquarters for community health work, and are staffed by physicians, nurses, technicians, sanitarians, laboratory technicians and health educators of the host republic. The Servicio supervises the operation of these centers until such time as they can be integrated into the national health organization of the country. It is estimated that over 2,000,000 persons are utilizing the facilities of the health centers. Similarly, 86 hospitals have been constructed or renovated, providing modern facilities for care of the sick, promoting new techniques in the isolation of infectious diseases and in maternal and child care, and serving as demonstration of what can be done. A low-cost tuberculosis sanitarium constructed in Chile attracted many visitors from neighboring countries and, within a year, the Chilean Government had decided to erect two more sanatoria of the same type in other parts of the country. The 128 other health facilities constructed include schools of hygiene, nurses' homes, nursing schools, laboratories, dispensaries and clinics.

Work in the field of sanitation is necessarily a long-term job, but is now well started and is very popular with the population served because of the obvious

benefits. Sanitation projects have included safe wells, sanitary privies, slaughter houses, clean public markets, public baths and laundries. Control of malaria has been a major concern; projects have included the construction of dikes, drainage, ditching and filling, larvicidal work and, more recently, the use of DDT in house-spraying campaigns. In Chimbote, Peru, the incidence of malaria has been reduced from 25% to 2%. In Leogane, Haiti, the incidence of malaria has been reduced from 71% to practically 0%. In Breves, on the Amazon River in Brazil, the incidence of malaria was reduced in two years from 43% to 3/10 of 1%.

To make health programs effective, it is essential to obtain the support and understanding of the people. Health education is, therefore, a major activity. Organized campaigns for the education of the public in the cause and control of disease are carried on in all the cooperating republics by means of motion pictures, film strips, newspapers, magazines, bulletins, posters, lectures and individual instruction. Millions of pamphlets have been distributed in Spanish and Portuguese. Uruguay is experimenting with telling the health story through a daily comic strip.

Equally important is the training of the necessary public health personnel. According to the most recent information, the 14 field parties of the Institute in the health program number only 127 United States employees -- including 13 physicians, 38 engineers and 30 nurses. They are working with 8578 nationals of the cooperating republics, including physicians, engineers, nurses, practical nurses, sanitary instructors, technical and clerical assistants and over 5000 workmen. The programs started in each country under a great deficiency of trained personnel. To provide the indispensable staff, a big training program was launched, which has thus far affected over 8900 people. While a little over 1200 fellowships for study in the United States have been made available, more than 7500 people were trained in Latin America through in-service training in these programs.

Some 17 motion pictures have been developed, including a series of 10 produced by Walt Disney Productions for the Institute, known as "Health for the Americas", and these have been used at hundreds of meetings throughout Latin America. Other special projects have included establishment of clinics for control of venereal diseases along the United States-Mexico border in cooperation with the Pan-American Sanitary Bureau, mobile dispensaries, special medical care for rubber workers and their families in Bolivia, Colombia, Costa Rica, Ecuador and Honduras, special medical and sanitary assistance in the mica and quartz-mining areas of Brazil, and a special mine-labor program in Bolivia.

The health and sanitation program in Chile is presented in greater detail in Part A of Appendix 1, as illustrative of all the health and sanitation programs.

## PROGRAM IN EDUCATION

The educational program has concentrated its activities in the fields of elementary education, secondary education and vocational training, the latter mainly industrial training. In each of these fields, the central activity has been the training of teachers.

Cooperative education programs have been in effect at various times during the last six years in Bolivia, Brazil, Chile, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Panama, Paraguay and Peru, and are now in operation in 7 countries -- Bolivia, Brazil, Ecuador, Guatemala, Panama, Paraguay and Peru.

The elementary education program deals principally with rural education. In nearly every case, the entire rural education system has required reorganization. In general, Latin American rural schools have suffered from neglect, particularly as compared with the urban schools. In most of the republics very few pupils receive education beyond the fourth grade of the primary school; in some countries, the majority receive no more than one to two years. School buildings have been inadequate; rural teachers are very meagerly paid; there is an inadequate supply of teachers; and many of the teachers have not only had no teacher training but may not have themselves received more than four to six years of primary schooling. Curricula have been identical with those for the urban schools; rote-learning was universal; text books and teaching materials have been unknown, even blackboards and chalk usually being unheard of; "courses" have been too numerous and planned with no regard for the mental age-level of the pupil; practically none of the instruction has had any bearing upon the pupils' environment and needs.

The central theme of the educational program has, therefore, been the "community-centered school". The curriculum is gradually revised to give every element in it a purpose and meaning in the national rural environment. Agriculture and health are especially stressed. Hygiene courses give simple instruction in personal, school and home hygiene. Proper diet is taught, and is illustrated by school lunch programs, with pupils participating in planning and preparing the lunches. Courses in elementary agriculture are illustrated in the school garden projects.

Special emphasis is placed upon teacher training. In several of the republics, this has required the establishment, from the ground up, of a rural normal school system. Selected teachers are sent by their governments for the complete normal school course. Other teachers must be given shortcourse training in summer schools and in teachers' institutes and workshops. Supervisors are also carefully trained in special courses. The device of practice and demonstration schools is widely used. In some countries, mobile missions move about from one school district to another, giving demonstrations and assistance.

The development of text books and other teaching aids, and the training of teachers in their use, has proved indispensable. Such materials as textbooks, flash-cards and teachers' manuals must be created to fit the local scene.

The school is "community-centered", not merely because its curriculum is devised to reflect the community life of the pupils, but because it is designed to extend the benefits of the school to the entire community. The students are organized into the equivalent of our 4-H Clubs (the CLUBS ESCOLARES). The parents and village officials are encouraged to visit the schools. Parent-teacher associations are formed, and the community is brought into the work of the schools.

The "nuclear school system" of administration is emphasized, under which a group of 10 to 20 schools in a given area are grouped about a central school, from which emanate the services of supervision and administration.

The principal problem in secondary education has been to adjust the existing academic curriculum to meet the needs both of the students who prepare for the university, and of those who will not continue beyond the secondary school. In addition, the program involves setting up new divisions to provide commercial, home economics or manual arts training. Here, too, the principal emphasis has had to be on curriculum planning, teacher training and the development of teaching methods, based upon use of textbooks, teaching tools and visual aids.

The vocational education programs have differed from country to country according to need. They include training a supply of craftsmen in basic trades like carpentry, plumbing, electrical installation and repair; furnishing skills for earning a living to the thousands who cannot expect to lead a scholarly life; and training industrial workers where industrialization is under way. The vocational education activities include three broad branches: (1) the organization (in some cases, the reorganization) of technical schools, which usually involves planning the school buildings and shops, supervising construction, obtaining and installing new United States equipment and machinery, organizing the courses, preparing teaching materials and training teachers; (2) the establishment of vocational education divisions in selected schools, to parallel and supplement the academic divisions; and (3) the development of manual arts, crafts and home economics courses in the elementary schools.

The educational program in Guatemala is presented in greater detail in Section B of Appendix 1, as illustrative of the educational activities.

#### PROGRAM IN AGRICULTURE

Agriculture is the basis of livelihood for more than two-thirds of the citizens of Latin America. It is the principal industry in nearly every one of the other



American republics. It is the key to their domestic prosperity, and their principal source of purchasing power in world markets.

The agriculture of Latin America, viewed as a whole, presents two basic problems:

(1) There is not enough of good arable land, except in a few countries, to provide the food and fiber needed by the population;

(2) The tillage, planting and harvesting practices of hundreds of years ago still largely prevail in the production of the majority of the crops. This combination of the use of primitive and inefficient methods for producing crops and livestock on lands that, in any event, are probably insufficient to meet the demands that must be made on them makes exceptionally acute for Latin America the problem of how to provide a healthy balance between population and resources.

Nevertheless, the situation is hopeful. Modern scientific agriculture can produce on the lands of Latin America all that the population will require of many commodities and most of what they will require of other agricultural commodities. The remainder can be secured in foreign trade through export of other commodities which Latin America is producing and can produce, but this desirable goal cannot be reached until the agriculture of the Latin Americas is brought to adequate development.

The agricultural program of the Institute (usually called the Food Supply Program, because its emphasis during the War was to increase the food supply immediately available for the population of Latin America and for those of the armed forces of the United States stationed in Latin America) has never enjoyed funds adequate enough to be able to cooperate on an agricultural program in each of the republics. Cooperative agricultural programs have been maintained at various times in only 10 of the 20 republics, and are operating today in only 4 -- Peru, Paraguay, Haiti and Costa Rica.

The program in Peru reveals very clearly what can be done. The Republic of Peru is of about the combined size of Washington, Oregon, California and Arizona. It has a population of  $7\frac{1}{2}$  million persons, 65% of whom are entirely dependent upon agriculture for a livelihood. Peru's total annual income from agricultural production represents no less than 75% of the real annually produced wealth of the nation. Of this amount 85% is derived from production on small farms. Despite this emphasis on agricultural production, Peru normally does not produce enough food to satisfy domestic demands.

The Servicio early initiated a country-wide agricultural development program. Its principal achievement has been the creation and continuous expansion of an



agricultural extension service patterned after that of the United States. Through field demonstrations and visits to individual farms, agents assist farmers to secure, care for and use needed equipment; to practice good methods of soil conservation, irrigation, crop production and disease and insect control; to improve livestock breeding, management and feeding techniques. Starting with a nucleus of 11 offices in 1943, the Servicio now operates 30 rural offices located in the most important productive areas. In 1945 the rural offices received 9,358 visits from farmers; in 1947, 30,861 visits. In 1945, agents visited 3,210 farms; in 1947, 10,933.

A wide variety of materials not obtainable through normal commercial channels is provided to farmers at cost through the Servicio. Since the end of the War, the Servicio has begun to establish agricultural machinery pools. Through these pools, modern machinery is made accessible to small farmers who could not otherwise afford the use of mechanized equipment essential to low-cost production.

Adequate quantities of viable seeds, although essential to food production, are not yet available in Peru. The Servicio has purchased and distributed 1,500 tons of seed, and thousands of fruit trees and other plant propagation materials. Distribution has been made at cost through the extension service. To promote the fruit production industry, the Servicio has made available needed insecticides, spraying and fumigating equipment.

A general livestock project is in operation in an effort to alleviate the shortage of meat in the coastal areas of Peru. Livestock quarantine stations were constructed in Arequipa, Callao and Eten, the principal ports of entry for imported animals. To increase the supply of good breeding animals a calf-rearing and distribution project was initiated, and several hundred registered cattle have been imported from the United States and sold to producers in every part of the country. Intensive work is being done to control animal diseases. In addition, the Servicio is endeavoring to increase the production of meat, poultry and dairy products by distributing high quality hogs for breeding purposes, importing pedigreed chickens for the poultry department of the Ministry of Agriculture, and the recent purchase of two mammoth, continuous hatch incubators in the United States for use at La Molina and Lima. Approximately 65,000 chicks have been imported by air from the United States to demonstrate the practicability of introducing new breeding stock in this manner. Losses have been amazingly small, due to the generous cooperation of United States poultry producers in expediting these semi-experimental shipments. To stimulate sheep production the Servicio has imported Hampshire and Suffolk rams for breeding with ewes from the Peruvian Sierra and is conducting a coastal demonstration of profitable sheep raising.

The Servicio is also at work in improving land use through the repair and construction of irrigation systems, the application of proper fertilizers and improved

methods of soil conservation; in providing engineering construction services; in developing land rehabilitation and water-use projects; in preparing economic studies and analyses; in organizing a nutrition program; in developing fisheries projects to promote the Peruvian fishing industry; and in developing a warehousing system to eliminate spoilage and avoid seasonal fluctuations in supply.

In Haiti, abandoned lands are being restored to production; a 1200 acre live-stock demonstration farm is in operation; and special emphasis is being given to the restoration and development of irrigation and drainage systems. Recently, activities have been concentrated mainly in three areas, the Artibonite, the Fonds Parisien and the Damien. In the 150,000 acre Artibonite Valley, a pilot project is successfully demonstrating that the salt content of the soil can be reduced through drainage and irrigation and that food crops can be grown throughout the Valley. An engineering study of the Valley was completed recently and used as a basis for the Haitian application to the Export-Import Bank for a loan of \$3,000,000 for agricultural development. At Fonds Parisien, an area once irrigated but now almost barren, 75% of an irrigation project has been completed; this will provide water for 1250 acres in an area of small farms. At Damien, the site of the Ministry of Agriculture and the School of Agriculture, one-half of the experimental and demonstration farm has been turned over to the Servicio for development and use as a demonstration and training center.

Project activities in Costa Rica emphasize agricultural extension and demonstration work. A corn dryer has been constructed in the Atlantic coastal area to demonstrate proper drying and storage, and corn is now being produced in areas that were lying idle after they had been abandoned by fruit growing enterprises. The National Bank of Costa Rica is developing in cooperation with the Servicio a program of supervised agricultural credit.

At different times during the last six years, agricultural programs have been operated on smaller scale in Brazil, Ecuador, El Salvador, Honduras, Nicaragua, Panama and Venezuela. The work already done can be built upon when the resumption of these programs becomes possible.

The agricultural program in Paraguay is presented in greater detail, as illustrative of all the food programs, in Section C of Appendix 1.

The outstanding common characteristic of the programs in health and sanitation, education and agriculture here summarized is their unfinished state. It is necessary to build further on what has been done, if the real fruits of the enterprise are to be realized. The withdrawal of the cooperation of the United States at this early stage would remove guidance, encouragement and support at a time when the need for them is still keenly felt.

## APPENDIX 1

### THREE ILLUSTRATIVE EXISTING PROGRAMS

The present program of the Institute is briefly summarized beginning on page 11. In this Appendix 1, three illustrative cases are presented in greater detail: The health and sanitation program in Chile; the education program in Guatemala; and the agricultural program in Paraguay.

#### A. HEALTH AND SANITATION IN CHILE

During March 1943, following certain preliminary conversations, His Excellency Claude G. Bowers, the Ambassador of the United States to Chile, informed His Excellency Don Joaquin Fernandez Fernandez, then Minister of Foreign Affairs, that the Government of the United States was prepared to contribute \$5,000,000 to help in the expansion of public health activities in Chile.

An agreement was signed on May 12, 1943, between the Government of Chile and the United States. All details for execution of the cooperative health program were turned over to Dr. Eugenio Suarez Herreros, representative of the Government of Chile, and Dr. George C. Dunham, representative of The Institute of Inter-American Affairs.

Upon request by Dr. Dunham, Dr. Suarez submitted a plan for administration, standards and procedures. This plan was accepted by The Institute of Inter-American Affairs, and has been the basis of operation since that date. The plan provided for a program consisting of separate, well-defined projects and that all projects undertaken should be related to the furtherance of the existing public health program in Chile.

To carry out these projects the Inter-American Cooperative Public Health Service (known in Chile as the Servicio Cooperativo Interamericano de Salud Publica) was established in the National Public Health Service (a division of the Ministry of Public Health, Welfare and Social Security). As an integral part of the National Public Health Service, and thus an integral part of the Government of Chile, the Cooperative Health Service and all its personnel enjoy all the rights and prerogatives of that Government.

As of the end of 1948, the Institute's field party included four officers, besides Dr. Theodore I. Gandy, Chief of Field Party and Director of the Cooperative Health Service; while 572 Chilean nationals (including 328 unskilled workmen) were employed by the Service.

When the Cooperative Health Service (referred to hereinafter as the Servicio) was established in May 1943, the most important problems confronting the Servicio were the needs in many communities throughout the country for adequate water supplies and sewage disposal systems, for health centers and other public health facilities, and for more trained public health personnel.

The following is a summary of the work undertaken by the Servicio in Chile, beginning in May 1943.

**HEALTH CENTERS** On July 28, 1943 a countrywide project agreement was signed, providing for the construction and equipment of health centers throughout Chile. These units were designed to give preventive service to the entire population located in the areas in which they were to be constructed. Therefore, the population served in the different areas varies from approximately 30,000 people to more than 70,000 people per unit. Each health center offers the following services: Infant and preschool clinics, prenatal clinics, tuberculosis and venereal



disease clinics. In addition, space was provided in each unit for an auditorium, demonstration rooms, and offices, with the necessary sanitary installations for visiting nurses, health educators and sanitary inspectors serving the area. Public baths and laundries were installed in two units. The exact number and location of these health centers was not specified but was left to be decided by mutual agreement from time to time. For the construction and equipment of the health centers a total of \$660,000 was allocated (Project 5), and for their operation a total of \$191,299.83 was made available (Project 22).

**VALPARAISO.** In August 1943 the city of Valparaiso deeded a partially-completed building to the Servicio. This building was a two-story steel and concrete structure located in the Cerro Baron district of Valparaiso. Approximately 50,000 people in the low-income bracket were to be served by the health center. The Servicio allotted \$156,625 for completing the construction and equipping of the Cerro Baron Health Center. Architectural plans involving certain structural changes in the building were prepared. Construction began in September 1943 and the building was dedicated on December 7, 1944. All of the equipment except the X-ray equipment was installed by that time. X-ray equipment, however, was not installed until July 1946. The unit began operation on January 1, 1945, with all services except the T.B. clinic, which began operation following the installation of the X-ray equipment. All activities of a full-scale, modern health center are now being performed by the Cerro Baron Health Center in Valparaiso.

**SANTIAGO.** The district of Quinta Normal is located in the northwestern portion of the city of Santiago. It is an area of approximately 70,000 people with very low incomes. The Rockefeller Foundation was already working in the area in 1943. Also, the National Health Department was actively working in Quinta Normal. In June 1943 the Servicio signed an agreement to construct and equip a health center in this area. A total amount of \$201,490 was allocated for this project. Negotiations concerning the purchase of the site were completed by November 1943. Construction began on December 13, 1943, and was completed in April 1945. The health center was dedicated on May 18, 1945, and placed in operation under the auspices of the Rockefeller Foundation and the National Health Department.

**ANTOFAGASTA.** In December 1943 the city of Antofagasta offered a site, valued at \$11,000, to the Servicio, which agreed to construct and equip a health center on the property. The location was in the central portion of the city. Construction was started during June 1944. The building was completed in October 1945, and was dedicated on December 7, 1945.

Operation of the health center by the National Public Health Service and the Servicio began in December 1945. All clinics and facilities of a modern health center are maintained in this unit. All of the X-ray equipment had arrived by November 1947, and this clinic is now in full operation. Total cost for this building and equipment furnished by this Servicio will be approximately \$167,000.

**TEMUCO.** The city of Temuco, with 44,000 inhabitants and capital of Cautin Province, is an important railroad center and gateway to the lake district of Southern Chile. In May 1945 the Servicio agreed to construct and equip a health center in this city. Construction of the new health center began in July 1945. The building was completed in November 1946, and was inaugurated on December 14, 1946. Active work began March 1947, with the exception of the T.B. clinic. The clinic is now in full operation. Total cost of the building is \$121,365.

**HOSPITALS**      **TRUDEAU HOSPITAL.** Tuberculosis is the second highest cause of death in the Province of Santiago. Although local social security and medical aid services offer facilities for diagnosis as well as medical and surgical treatment in sanatoriums for curable cases, there is a very urgent need for sufficient beds to hospitalize more cases. The Servicio allocated the sum of \$986,000 for

the construction and equipment of a 500-bed barrack-type hospital with technical and general facilities sufficient for 1,000 beds. The pavilions are distributed in such a manner that additional ones may be built in the future. Construction of the sanatorium was begun in October 1944. All the building construction was terminated and equipment installed and tested by the first part of November 1947. First patients were received November 17, 1947. The Servicios de Beneficencia y Asistencia Social are financially responsible for the operation of this hospital (Project 14).

**CARABINEROS HOSPITAL.** The Carabineros are the Chilean National Police Force, and provide, through their medical staff, treatment for the members of the Carabineros and their families. Several years ago, this organization constructed a hospital and clinical building in Santiago for the hospitalization of Carabineros and their families, but upon completion of the building were not able to obtain sufficient funds for equipment. In September 1943 plans were made to equip this hospital. Work began in October 1943 and was terminated during the year 1946. This hospital was completely equipped, including the installation of five elevators - three for the transportation of passengers and hospital beds, two for food and linen transportation; laboratory equipment; X-ray equipment; operating room equipment; obstetrical operating room equipment; refrigerator units; complete kitchen and laundry equipment; and other items necessary for the efficient operation of the hospital. In addition to equipping the hospital, over one hundred and twenty-five structural changes were made in the building to facilitate the efficiency of hospital operations and the installation of equipment. The hospital structure was dedicated on April 27, 1945, but did not receive patients until August 1947. It is at present operating to a maximum capacity. The Carabineros have assumed financial responsibility for the operation of this hospital. The sum of \$280,000 was appropriated for this work (Project 6).

**SAN JOSE DE MAIPO.** On February 26, 1945 the Servicio signed an agreement for the construction of auxiliary buildings for the tuberculosis sanatorium in San Jose de Maipo. The Servicio Medico Nacional de Empleados contributed one hundred per cent of the funds for the construction, while the Cooperative Health Service contributed the services of technical personnel amounting to \$6,000. This was the first cooperative project for which the Chilean Government, in this case through the Servicio Medico Nacional de Empleados, contributed the entire amount of the funds for the construction of the building. The project consisted of the additional bed space adjacent to the existing sanatorium living quarters for personnel, changes in the kitchen and dining room, a house for the director, and the installation of a dumb waiter. Construction was begun on March 15, 1946 and completed, insofar as construction was contemplated under this agreement, during December 1947 (Project 23).

**GUAYACAN.** The Chilean Army has a small tuberculosis sanatorium in Guayacan for the use of officers. The Army wished to enlarge the sanatorium in order to be able to provide efficient medical attention to all ranks of Army personnel. On June 30, 1945 the Servicio agreed to furnish \$235,000 for the construction of a sanatorium of 120-bed capacity and the necessary service buildings. This agreement does not include equipment. The sanatorium has been named the "Franklin D. Roosevelt Sanatorium". Construction on this hospital was begun in May 1946, and is now practically complete. The Army will undertake necessary landscaping and planting. It is estimated that final cost of the sanatorium construction will be approximately \$300,000 (Project 24).

**SURVEYS** An agreement was signed on June 15, 1943, which provided for the hiring of architects to study different types of buildings and to make preliminary plans and estimates as a basis for preparing specific projects. Studies were made of various land sites for health centers in Chuquicamata, Concepcion, La Calera, Maria Elena, and Pedro de Valdivia as a part of a general plan for improving health and sanitary conditions. During the month of April 1944, a four-man commission was created by the Chilean Government to study the health and sanitary conditions in the Province of Cautin in the southern part of Chile. The temporary



headquarters of this commission was in Temuco, capital of the province, and visits were made to the following towns in this province: Carahue, Cunco, Freire, Las Casas de los Padres, Nueva Imperial, Pitruquen, and Temuco. A total of \$9,990.54 was expended for this project - No. 2. <sup>1/</sup>

One of the first projects undertaken by the Servicio was an engineering study of the existing sewage disposal system in Santiago. The sum of \$3,000 was provided by project agreement signed August 25, 1943 to make this study. Field work was started during June 1943, to obtain detailed information on the best possible manner of extending the existing system to all unsanitated areas. Investigation of the types and quantities of industrial wastes from manufacturing plants was also made to determine the type of sewage treatment facilities which would meet the particular needs of the city. The study for the sewage treatment plant for the city of Santiago was completed in January 1945.

The original study was extended upon request of the Chilean Government to include a number of other towns in need of sewerage service and an additional sum of \$10,000 was made available for this purpose and for completing a report on the study for Santiago. This report was completed in October 1946 and the bound copies were distributed in December 1946.

Sanitary conditions were studied in Lebu, in the Province of Arauco, and also in Castro, Corral, Nueva Imperial, and Talca. A study for a sewerage system and treatment plant was made in Penablanca for the extension of the Villa Alemana sewerage system into that community. Much of the work consisted of collection of samples, measurements of flows, field survey of treatment of plant site and routes for trunk sewers. This project - No. 1 - was completed December 30, 1946 with a total expenditure of \$12,974.95. <sup>1/</sup>

#### OTHER BUILDING CONSTRUCTION AND EQUIPMENT

The PROTECTORA DE LA INFANCIA, an institution for the housing and training of children who have no homes, is located on the Puente Alto-Santiago Road, about 2 kilometers from Puente Alto. In September 1943 plans were made for expanding and improving existing buildings. Among the facilities provided were workshops to train the children. Two new buildings were constructed, and the three existing buildings were extensively remodelled. Electricity and modern sanitary facilities were installed. Work began in October 1943, and was completed in May 1944 at a total cost of \$20,641.37. The building was dedicated on September 9, 1944, when it was officially turned over to the use of the Protectora de la Infancia (Project 7).

The NATIONAL INSTITUTE OF RADIUM has been in operation for a number of years. The Institute treats cases of cancer not only from the Santiago area, but from the Provinces. In order to aid in this cancer control work, the Servicio allocated the sum of \$15,000 to install one deep therapy X-ray unit in the Institute to augment the two machines at present in operation. An order for the equipment was placed in the United States in October 1943. The room was prepared by the Instituto del Radium in September 1946 and the machine installed and put into operation in November 1946. The addition of this machine has greatly enhanced the facilities available for treatment purposes. A total of \$11,127.53 was expended for this project - No.3.

The BACTERIOLOGICAL INSTITUTE is a part of the National Public Health Service and is responsible for the manufacture and distribution of biologicals and arsenicals;

<sup>1/</sup> The surveys discussed in these projects, with the exception of those in Santiago and Penablanca, were made for projects that were not established. Preliminary surveys are made for all established projects; these surveys are included with the discussion of the project.

the laboratory examination and epidemiology of the Public Health Service; and general research in the production of biologicals. A new building to house the Institute had been partially completed in the Municipality of Nunoa, a suburb of Santiago, but construction had been stopped because of insufficient funds. In November 1944 the Servicio allotted the sum of \$175,000, which was later raised to \$222,500, for the completion of this building. This included the finishing of the main building, the power house, the chimney and the construction of fences. The project did not include the purchase of equipment or furniture. Construction began in November 1944, and by December 1945 the main building was practically completed. The additions and finishing of the boiler-house, chimney, etc. remained, and work progressed on these slowly throughout the year 1946. Difficulty was experienced in obtaining the necessary fittings, etc., for the installation of the boilers. It was not until the latter part of December 1947 that the condensate return pumps were received to complete the installations in the power house (Project 20).

The VIRUS BUILDING forms a part of the group of buildings of the Bacteriological Institute. Originally it was planned not to finish this building, but, because of added activities in the main building, it was not found possible to provide the necessary isolation for the Virus Section and provide adequate assurance against contamination of other processes. Under Project No. 30 the Servicio made available \$60,000 and the Bacteriological Institute made available \$6,472.49 as well as all available construction materials in the warehouse. Plans were completed early in 1947. Actual construction began about the middle of February and the building was completed in December 1947 (Project 30).

The SCHOOL OF PUBLIC HEALTH in Santiago is located on the top of the west wing of the Bacteriological Institute described above. In June 1943, an agreement was signed providing for the completion of construction and equipping of the School by the Servicio, including laboratories, auditoriums, libraries, and classrooms. Construction began in October 1943. The building was completed in April 1945 at a total cost of \$80,633 for the structure and equipment. An additional amount, which brought the total allotment for this project to \$93,000.00, was made available to equip a nutrition laboratory and to purchase a bus chassis for field trips. While the School has been functioning since 1945 a certain amount of equipment for the nutrition laboratory is still being awaited. This school is a part of the University of Chile and its operation is partially financed by the Rockefeller Foundation. The faculty consists of Chileans, many of whom have received public health training in the United States (Project 4).

The DIRECCION GENERAL de BENEFICENCIA y ASISTENCIA SOCIAL is a division of the Ministry of Public Health, Welfare and Social Security in charge of the construction, equipment and operation of hospitals. This governmental organization maintains approximately 26,000 hospital beds in Chile, but its work has been handicapped due to lack of necessary equipment. On November 7, 1944, a sum of \$2,100 was made available for the purchase of special medical equipment. An electric cautery and cystoscope, together with the necessary attachments, were obtained from the United States and delivered to the Government of Chile for the use of this organization. The cost was \$1,814 (Project 19).

SALVADOR HOSPITAL. This hospital is owned and operated by the Servicios de Beneficencia y Asistencia Social of the Government of Chile, and maintains a section for specialized surgery known as the Harvey Cushing Pavillion. This section lacks certain technical equipment for the proper functioning of the surgical unit. Project No. 31 has for its purpose the purchase of equipment with funds provided by the Servicio. A total of \$12,000 was made available and all equipment, which consists for the most part of operating room and laboratory apparatus, has been ordered from the United States.

TRUDEAU HOSPITAL. While the project agreement for this hospital provides for the construction and certain basic equipment, there remained to be purchased many articles such as linens, cutlery, china, uniforms, clinical equipment, etc. The Servicio de Beneficencia y Asistencia Social, which organization will operate the hospital, has requested the Servicio to assist in purchasing this material and equipment, and has made the sum of \$45,307.44 available for this purpose. This is another project for which all of the funds are being furnished by the Government of Chile (Project 32).

**SEWERAGE SYSTEMS** NORTH SANTIAGO. During March 1944 construction of a sewerage system for a section in North Santiago was considered. Plans prepared as a part of Project No. 1 (See Surveys) were approved by the Department of Public Works. Actual construction was started on June 13, 1944, and is progressing rapidly. Plans for the entire system include the construction of 240 kilometers of sewers varying from 100 mm. to 2.3 meters. In this quantity is included practically 45 kilometers of house connections. The Servicio has made available \$600,000 and the Department of Public Works of Chile has made available \$453,074.43, for a total of \$1,053,074.43. On this particular project money is allotted as it becomes necessary, as this work is being constructed in four sections. Total cost to date \$1,378,067. This system will make sewerage facilities available to approximately 200,000 people (Project 13).

VILLA ALEMANA. The towns of Villa Alemana and Penablanca lie adjacent to each other on the banks of the Penablanca inlet in the Department and Province of Valparaíso. Because of the rapidly increasing population of these two towns and because of their importance as sites of tuberculosis sanatoria, construction of a modern sanitary sewerage system and sewage treatment plant was undertaken by the Servicio. The sewerage system is designed to serve the most densely populated sections of the two towns. One fully equipped sewage treatment plant was constructed to serve both towns. Actual construction began in February 1944. The total amount allotted for this project to date is \$174,690. By September 1945 the collection system of the outfall had been completed. Work was then begun on the construction of the treatment plant, which consists of an Imhoff tank, trickling filters, secondary sedimentation, chlorination, and provisions for drying sludge. By the end of 1946 the plant was completed, except for the installation of mechanical equipment which was received and installed during 1947. Inauguration ceremonies were held September 27, 1947, and both the system and the treatment plant were put into use immediately thereafter. The commemorative monument was completed during December 1947. The system consists of some 20 kilometers of plain concrete pipe varying in size from 100 to 300 millimeters; 139 manholes; and 24 flush manholes. The plant is designed for a flow of 57 liters per second as a maximum (Project 8).

SAN VICENTE de TAGUA-TAGUA. San Vicente de Tagua-Tagua is located in the Province of O'Higgins. It is the commercial center serving a large agricultural zone. This city has a public water supply system, but had no adequate system of sanitary sewage disposal. Plans for the project were undertaken in November 1943 when an agreement was signed providing \$40,000 for this work. Construction began in March 1944 and was completed in June 1945 at a cost of \$33,949.10. The project consisted of the construction of approximately 7.5 kilometers of sewers including outfall, collection system, and house connections together with the necessary manholes, flush tanks and other appurtenances. The inauguration was held June 24, 1945 at which time the system was put into service (Project 9).

SAN JOSE de MAIPO. San Jose de Maipo is located on the Maipo River in the Province of Santiago, about 45 kilometers from the city of Santiago. Because of its location in the Andes Mountains it has become a center of tuberculosis sanatoria. San Jose has a public water supply system but has no modern system of sanitary sewers. An agreement was signed on November 23, 1943 providing for this work. Because the town is located at a relatively high altitude in the Andes Mountains, snow and bad weather



prevented construction work during the winter of 1944. On December 20, 1944 excavation of the trench for the outfall sewer was started. By September 1945, the system was completed and approximately 4,000 meters of pipe had been laid with the necessary appurtenances. The cost of this project was \$32,500, and it was inaugurated in December 1945 (Project 10).

LA CALERA. La Calera, in the Province of Valparaiso, is the center of the cement industry in Chile and is probably the most important railroad junction point in the country. The National Department of Public Works recently completed a water supply system, but there was no adequate sewage disposal system. The population of the city totals 12,000 persons. About 2,000 of this number live in a new section and are served by a system of sewers that discharges directly into the Aconcagua River. The remainder of the city is served only by open irrigation ditches. Plans were completed during November 1943 for the construction of a treatment plant to serve the entire city and to install sewers to serve the 80 per cent of the population which at that time was without a sewerage system. The sewage system and the groundwater drainage systems were completed in 1945, at a cost of approximately \$204,000. Since then work has continued on the construction of the outfall line between the system and the treatment plant site, and on excavation at the site. Estimated cost of the outfall line and plant is \$130,000 of which about \$23,000 has been expended (Project 11).

ANTOFAGASTA. Antofagasta, capital of the Province of Antofagasta, is one of the principal seaports of northern Chile, as well as the terminal of the railroad from La Paz, Bolivia. An existing sewerage system serves the central and older sections of the city, but not the area in the vicinity of the port works. In view of the fact that over 4,500 persons are expected to settle in this port area in the near future, an agreement was signed in February 1944, providing for the construction of a sewerage system for this section, with \$55,000 allotted to this work. The project consists of approximately 2 kilometers of sanitary sewers, 525 meters of pipe for carrying sea water for flushing the sewers, and a pumping station. The sewage collected flows to the pumping station by gravity and is then pumped into the main sewerage system for discharge into the sea. Construction of a factory to manufacture concrete pipe was started in July 1944 and was completed in September 1944. Excavation of trenches began in October 1944. Work was started on the construction of the sewage pumping station during December 1944. The entire System was completed in September 1945, and inaugurated on December 7, 1945. Total cost was \$49,154.83 (Project 12).

ANCUD. Ancud, capital of the Province of Chiloe, is located on the north shore of the island of Chiloe. It is the main port of the island and the northern terminal of the island railroad. Ancud has a public water supply system, but no modern sanitary sewerage system, so there was danger of contamination of the oyster beds in the harbor. In October 1944 plans were made for the construction of a system to serve the more densely populated sections of the city. The project will consist of approximately 4.8 kilometers of sewers. During December 1944 work was started on the construction of a pipe factory, storehouse, and office for the construction force. Work on the construction of the sewer lines was begun in October 1945. Bad weather conditions hindered the work on this project. To date the outfall has not been completed as it was designed, and probably will not be so terminated as this does not appear as absolutely necessary. It may be abandoned due to the very difficult construction which would be involved in the underwater work in an area subject to rough seas. Cost to date is about \$69,300 (Project 16).

TOME. Tome is located on the seacoast in the Province of Concepcion, approximately 30 kilometers north of the city of Concepcion. The city is a seaport and is also the terminus for the local trains between Concepcion and Tome. Tome has a public water supply but the sewage from the so serviced houses is discharged individually into several small streams passing through the city or into ditches in

the streets. These streams and ditches carried the sewage into the harbor of Tome at the public bathing beach and near shellfish areas, thus creating a public health hazard. An agreement reached in November 1944 provided for the construction of sewers, a sewage pumping station, together with apparatus for the screening of the sewage, and other necessary attachments to serve the more densely populated sections of the city. The sewage collected is discharged directly into the sea, at a point sufficiently remote from the center of the city. The city of Tome contributed the land necessary for the construction of the pumping station, a sum of \$2,000 in cash, the use of land for the construction of a temporary storehouse and pipe factory, and of suitable office space within the municipal building. In December 1944 work began on the organization of the project and on the construction of a pipe factory. The manufacture of pipe continued throughout most of 1945, and the actual laying of the pipe began in November 1945. Construction of the purifying station, with the exception of the communitor, was completed in July 1947. The official Commission made the inspection of the entire system during August 1947, and it was accepted and put into service the first of December, 1947. The communitor was received in Santiago the last of December 1947 and installed. Cost to date has been \$98,800. The system contains some 10.5 kilometers of collectors and laterals (Project 21).

NAVAL ARTILLERY SCHOOL, LAS SALINAS. The Naval Artillery School and village of "Almirante Allard" are located in Las Salinas near the city of Vina del Mar. The village serves as the location of homes for officers and non-commissioned officers of the school. The school has a present enrollment of 200, which is expected to increase to 500. The school and housing area was served by small septic tanks which were not functioning properly and effluent was ponding on the surface of the ground at the school and around the quarters, thus creating a public health hazard. The Servicio signed an agreement in September 1945 to provide for the construction of a sanitary sewer approximately 1.2 kilometers in length to collect sewage from the buildings and discharge it by gravity to one of the outfall sewers of Vina del Mar. The manufacture of pipe began in October 1945 in the pipe factory of Villa Alemana. The pipe was transported to the job by Navy trucks. The laying of pipe was begun in December 1945 and the project was terminated in April 1946 at a cost of approximately \$7,460 (Project 26).

LLAY-LLAY. The town of Llay-Llay is situated in a very fertile, almost level flood plain, the soil of which is very dense. The present population of some 4,400 were provided with practically no sanitary services, the usual practice having been to discharge sewage directly into irrigation ditches or open ditches along the sidewalks in front of the homes. This unsanitary condition very probably accounted for the high typhoid rate, 20 cases or 400 per 100,000 in March 1946. Future plans for development of transportation facilities for the country include this town as a railroad junction on the line into Argentina.

A project agreement was signed in April 1946 providing for the construction of about twelve kilometers of sewers and a complete treatment plant consisting of Imhoff tank, trickling filters, secondary sedimentation, chlorination, and sludge drying beds. A pipe-making plant was installed in July 1946, and pipe laying began in November of that year. Progress was slow due to the high ground water table, but the system proper was nearly completed by the end of 1947. About half of the excavation for the treatment plant had been done and a location line for the plant outfall had been staked. The right of way for this line had been requested of the Minister of Public Works. Approximately \$124,500 has been spent on this project to date (Project 29).

**GENERAL** In countries, such as Chile, where there is a scarcity of rainfall in  
**SANITATION** certain parts of the country, or where the rainfall is seasonal, the problem of water becomes exceedingly important. In rural areas, especially, it is difficult and sometimes impossible to obtain a safe and adequate water supply not only for drinking purposes but also in quantities sufficient for bodily cleanliness. Furthermore, the improper disposal of waste materials in rural



areas not only results in the pollution of local water supplies, but also results in the pollution of waters used in irrigation of food crops. Undoubtedly, this has been one of the outstanding factors for the high typhoid fever and dysentery rates in Chile. The incidence of typhus is also high in certain rural areas, thus constituting a grave public health problem.

**RURAL SANITATION.** On October 18, 1944, the Servicio provided \$50,000 for a demonstration program in rural sanitation. An area was selected to the south of Santiago which included four towns: Puente Alto, La Florida, San Bernardo and San Miguel, and the communities of La Cisterna and Lo Espejo. This area was selected primarily for the reason that the irrigation canals used in the cultivation of most of the vegetables for Santiago are located here and the method of sewage disposal resulted in heavy contamination of the irrigation water.

A five weeks' course in sanitation was given at the School of Public Health to prepare sanitary inspectors for the field work to be carried out under the rural sanitation program (See Training). Actual work began in November 1944. The primary work is the installation of privies. House to house inspections were made and recommendations for sanitary improvements were given by the inspectors. Also, the location of privies over the irrigation canals was changed to a land position. In addition, an intensive health education campaign was carried out in this area. This program was found to be so successful that upon termination of the work in the area to the south of the city it was decided to extend this control to that area just north of Santiago (Project 18).

By the end of 1947 a total of 4,840 privies had been installed and a total of 24,200 home visits had been made. Two hundred forty-two septic tanks were installed and numerous sanitary improvements were made, such as 154 absorption pits, 84 sewer connections and 110 water connections to the city system. The area now under control is 122,400 acres. As of May 1947 when this project (No. 17) was transferred to project 33, a total of \$32,685.81 had been expended.

**TYPHUS CONTROL.** A project was developed to serve as a demonstration in the effectiveness of DDT to control typhus, and a total of \$10,000 was allotted. Work began in February 1946, consisted of demonstrations in louse-infested areas, schools, theaters, etc. Conferences and demonstrations were held in all of the health centers, and basic equipment was purchased to permit the use of DDT by Sanidad officials. Results from the inception of the program have been gratifying, because of the effectiveness and ease of application of the chemical, and also the enthusiastic response and cooperation on the part of the public. As of May 1947 when this project (No. 27) was transferred to project 33, a total of \$8,202.09 had been expended.

**FOOD SANITATION.** The sanitary conditions under which foods are produced, stored and distributed in the city of Santiago are poor. The typhoid morbidity rate is constantly around 120 per 100,000 despite the fact that water and sewerage are satisfactory for most of the city. The Chilean Government is interested in developing a sound food control program and has made attempts in the past to improve the service. Under Project No. 28 a survey was made of all food handling and producing establishments in a densely populated area in the central part of Santiago. The area was divided into six sectors, each under the supervision of an inspector, who makes regular visits to the establishments in his area. Emphasis has been placed on complete sanitation of the premises, including the personal hygiene of the food handlers. Lecture courses were arranged, including showing of films on sanitation, and demonstrations have been held for the owners of establishments, as well as all employees. Both have responded with enthusiasm, and the results of the work are evident in the eating and food establishments of that part of the city.

The work is actually being carried out by the Food Control Division of the Provincial Health Service of Santiago. The Servicio made \$20,000 available for the

project. By the end of the year 1947 4,328 establishments were under control. As of May 1947, when this project was transferred to project 33, a total of \$5,630.79 had been expended.

**CONTROL OF COMMUNICABLE DISEASES.** As of April 30, 1947, the above three projects for Rural Sanitation (No. 17), Typhus Control (No. 27) and Food Sanitation (No. 28), were all incorporated under a master project, Control of Communicable Diseases (No. 33). During 1947, under this master project, 207 talks or demonstrations were given and an estimated sum of \$2,462,072.14 pesos, or \$79,166.31 dollars, had been invested.

**SCHOLARSHIPS AND TRAVEL** Project No. 25 was signed on July 31, 1945 to provide financial assistance to doctors or engineers who wish to pursue further studies or make observation visits to the United States, or to visit other countries to confer with other party members or colleagues concerning the work in general. A total of \$11,475 has been expended to date. Under this project the Chief Engineer of the Cooperative Health Service visited Peru, Bolivia, Brazil, Uruguay and Argentina in October and November 1945, observing general public health work in these countries. Assistance has also been given to persons to travel in the United States.

**TRAINING** Considerable progress has been made in recent years in the construction of buildings and work for the improvement of public health and sanitation within the country. However, the proper functioning of these buildings, works and other programs has not always been successful due to the lack of personnel with proper training in public health and sanitation.

A Public Health Nursing Officer joined the staff of the Cooperative Health Service in February 1944. She was consultant to the Servicio, and took charge of the organization or supervision of nurse-training programs and health center activities. A program was arranged to provide study and refresher courses for 8 graduate nurses at the Arriaran Nursing School. This course was designed to make supervisors of these nurses and was completed in October 1944. Five of the nurses remained at the school to assist with the teaching (Project 15).

In view of the shortage of trained public health nurses, a two-month course in public health nursing was organized, in May 1944, in the Quinta Normal District of Santiago. The five nurses taking the course received instruction on bag technique, prenatal and post-partum care, and infant care. They also were given opportunity to visit the field with the public health nurses, and later made field visits alone. The course was completed in June 1944. These nurses were assigned to work at the Cerro Baron District of Valparaiso. The amount of this project was \$4,232.30 (Project 15).

Prior to the completion of the Cerro Baron Health Center, the Servicio established a public health nurse training program in Valparaiso. In view of the shortage of trained public health nurses, a two-month course was started in May 1944. The nurses were trained to make home visits, collect data, keep records, and work in collaboration with the preventive clinics already established in the Cerro Baron District. Upon completion of the training period, the nurses began preliminary surveys and gained a knowledge of the people in the area. At the same time, the people were furnished with information concerning the services that would be given in the new health center. With the inauguration of the new building, the nurses transferred their activities to the health center proper (Project 15).

Close supervision was given to the public health nursing service in Cerro Baron, and periodic visits were also made to Antofagasta to supervise the work. Upon the opening of the health center in Temuco in December 1946, preparations were made to organize the public health nursing staff for Temuco.

In July 1945 three nurses from Uruguay were sent to Chile and assigned to Cerro Baron for a two-month training course in public health nursing. Four nurses from Colombia arrived in Chile at the beginning of April 1947 for a four-month field training course in public health nursing. They spent two months at the Quinta Normal Health Center and two months at the Cerro Baron Health Center. On November 1, 1947 sixteen graduate nurses were sent to Chile from Argentina for field training in public health nursing. Eight of these students were assigned to the Quinta Normal Health Center and eight to the Cerro Baron Health Center.

During October 1944 the sum of \$5,000 was made available for the awarding of scholarships to persons who are actively engaged in public health work or who require training to enter the employment of a public health organization. Funds have thus far been sent to provide scholarships for 15 sanitary inspectors taking a short five-week course in sanitation at the School of Public Health (See also Rural Sanitation). In addition, four nurses were granted stipends of 1,000 pesos per month in 1945 to allow them to continue public health training. In 1946 nine more nurses were granted stipends and two in 1947. They were required to sign a contract to work in health centers where their services may be required. This has aided materially in solving the problem of public health nursing personnel (Project 18).

In November 1945 the Servicio was requested to furnish technical advice for the organization of the nursing service at the Carabineros Hospital. A member of the Institute field party was made Director of the Nursing Service and began organizing the auxiliary help for the hospital. Courses of instruction were given, as well as practical demonstrations.

The Director of the Nursing Service was transferred from Carabineros Hospital to Trudeau Hospital in January 1947, in charge of the organizing of the nursing service, housekeeping and instruction of personnel as nurses aides. This latter instruction was necessary due to the lack of sufficient graduate nurses. The hospital services of Chile were not organized to include a housekeeping service, but due to the amount of equipment installed in this hospital, such was deemed necessary. A total of 48 auxiliaries were trained, as indicated, and were prepared for their duties in anticipation of the opening of the hospital in November 1947. In addition, organizational instruction was given to a selected group of 8 chief nurses who were sent from various other Chilean hospitals and who upon completion of the training returned to their respective posts to set up similar courses of instruction.

Each year from June to October a specialized course is given at the School of Public Health for doctors. The Servicio has been responsible for assisting in the planning and conducting of this course. Attendance has been as follows: in 1944, ten doctors; in 1945, sixteen doctors; in 1946, sixteen doctors, and in 1947 eighteen doctors. In addition to this, since 1944 certificates have been given to the following: 31 sanitary inspectors; 14 laboratory technicians; 54 doctors in statistics; 29 statisticians; 45 inspectors in food control; 20 auxiliary laboratory technicians; and 57 health education workers. All told, a total of 310 students have received training or instruction in the school since its opening.

During the period of operation of the Servicio in Chile, assistance has been given in the training of professional and technical personnel by The Institute of Inter-American Affairs through the giving of sixty-four fellowships and travel grants for training of Chileans in the United States. These fellowships include training in such subjects as Medical Statistics, Tuberculosis, Food Control, Epidemiology, Public Health, Chest Surgery and Sanitary Engineering. As of December 31, 1947 all these trainees had completed their assignments and had returned to Chile.

**HEALTH  
EDUCATION**

In July 1943 a Health Education Section of the Servicio was established. Activities included press relations, panel discussions of health problems, film showings, radio broadcasts and lectures. Other health



education work included a workshop for rural teachers, an eight-month course for teachers of rural primary schools in the Province of Santiago, and a correspondence course for rural teachers in all parts of the Republic.

In January 1945 the Health Education Section was changed to the Section of Public Relations. Consumers' Leagues were organized to educate housewives in terms of buying, eating and general living habits. A Mothers' Club was organized at the Cerro Baron Health Center and a Clubhouse provided for under-privileged children of the Quinta Normal District. Public Health film showings, radio talks and press releases have continued. A course of nine sessions of two hours each, covering topics of health education, was given to the summer course of High Secondary teachers in the Universidad Technical Santa Maria in Valparaiso. Assistance was given in arranging publicity and educational material for the Typhus and Food Sanitation program.

The field party's Health Education Officer was assigned in August 1946 to study local conditions in health organizations in order to prepare a course in health education at the School of Public Health in Santiago. A course in public health education was initiated at the School on November 11 of that year. The course was divided into three parts as follows: Basic Material on Problems and Principles for the Control of Public Health; Basic Principles of Public Health Education; and Seminars covering selected subjects relating to the first two mentioned. Classes were held five days per week, and were conducted by Chileans specialized in their lines.

It was not the purpose of the course to train professionals in health education, but rather to teach public health workers and others the value of using sound public health education principles in their every-day work. A total of 54 students attended the course. These people returned to work in 25 different areas.

At the time of the initiation of the above course in November 1946, the Health Education Section of the Servicio was reestablished. In February 1947 the Section began systematizing education in the field of tuberculosis for the various health centers. To do this, conferences were held with the Directors and Nursing Staffs of two centers, Cerro Baron and Quinta Normal, to get their ideas as to the educational needs of the people attending the tuberculosis clinics. In addition, observations were made of the progress of the individual through the clinic to see what opportunities for education existed, by whom it might be done, as well as where, when and the amount of time available.

As a result of these activities, a plan of education was developed which included: (1) extent of the problem in Chile, (2) nature of the disease, (3) responsibilities of all individuals in the control of the disease, and (4) responsibilities of the patient in the control of the disease.

To avoid duplication and omissions and to insure uniformity in the development of the educational work by the staff, two things were done. First, a model discussion of the various points of the program was developed to give an idea of the way to discuss the problem with the individual, in the home or clinic. Second, a systematic plan of teaching was organized in which the various parts of the program were taught in the following order:

1. First visit in the home by the nurse
2. First visit to the clinic by the family
3. Second visit to the clinic by the family
4. Second visit to the home by the nurse



This individual education of the various members of the family was supplemented by:

1. Classes for the caretakers of tuberculosis patients
2. Classes for contacts of tuberculosis patients
3. Night meetings with educational program for those away from home during hours of nurses' visits

The above systematized program was to be implemented with:

1. Picture album for nurses to use in home
2. Film strip, based on picture album, to be used in the clinic and with group meetings
3. Six-page pamphlet about responsibilities of individuals in the control of tuberculosis
4. Leaflets about the responsibilities of the tuberculosis patient to be used in the home

At this date the film strip and six-page pamphlet are in existence and are being widely used with great satisfaction. Production of the other two materials is being deferred for lack of funds. The cost of the picture album is high unless produced in quantity.

Following the development of the above system of education and materials, requests were received from the tuberculosis section of the "El Salvador" Hospital and the "El Peral" Sanatorium to adapt them to the needs and facilities of those institutions and to instruct their staffs in the use of them. The Servicio de Beneficencia y Asistencia social has asked for assistance in extending the program to all the sanatoria under its management.

While these activities were going on, the Health Education Section prepared for the Typhus Control Project of the Departamento two six-page pamphlets, "Combata el tifus" and "Libre su hogar de insectos peligrosos a base de D.D.T.", and for the Control of Communicable Disease Project another six-page pamphlet, "Asi se transmite la Tifoidea". These are now in their second printing.

Another important work of the Health Education Section has been cooperation with the Education Division of the Institute in elaborating and putting into operation a program of school health at the secondary level in the experimental schools of the Education Division. School health examination was instituted, parent-teacher groups organized, and school health committees have started to function.

At page 12 of the memorandum, in the summary of the existing health and sanitation program, it is stated that by the end of June 1948, a little over 1940 separate projects and activities had been undertaken in the program, of which slightly more than 1300 were completed and 634 were actively under way. A breakdown of these projects and activities follows:

# HEALTH AND SANITATION DIVISION

Activities reported June 30, 1948

TYPE OF WORK	Number of Activities		
	Total	Active	Completed
TOTAL, ALL ACTIVITIES	1948	634	1314
LOCAL TRAINING COURSES			
Nursing			
Administration	18	8	10
Undergraduate	11	6	5
Public Health	17	9	8
Orthopedic	1	-	1
Nurse aide			
Visiting	12	3	9
Hospital	11	1	10
Practical	6	1	5
Midwifery	5	2	3
English classes	2	1	1
Sanitation			
Engineers	5	1	4
Sanitary Inspectors	34	8	26
Graduate Medicine			
Public Health	7	2	5
Tropical Diseases	5	1	4
Yaws	1	-	1
Other			
Health education			
Teachers	14	1	13
Lay workers	3	-	3
Laboratory techniques	13	2	11
Industrial hygiene	2	-	2
Hookworm control	2	-	2
Malaria control	2	2	-
Rat control	1	-	1
Inter-country Training			
Study grants	15	7	8
Travel grants	3	1	2

## HEALTH EDUCATION

Preparation and distribution of health materials, such as:	33	14	19
Newspaper stories			
Magazine articles			
Bulletins			
Pamphlets			
Posters			
Exhibits			
Health Museum			
Radio programs			
Lectures			
Demonstrations			
Panel discussions			
Forums			
Contests			
Public address automobile			

TYPE OF WORK	Number of Activities		
	Total	Active	Completed
HEALTH EDUCATION (Continued)			
Moving pictures			
Film strips			
Lantern slides			
Organization of national education work or division of health education in health department	1	-	1
Public health education in schools	12	1	11
Organization of health clubs	3	-	3
Establishment and/or reorganization of public health library	4	3	1
INVESTIGATION, PREVENTION, TREATMENT SPECIFIC DISEASES			
Disease studies	29	9	20
Control Specific Diseases	92	27	65
Bartonellosis			
Diphtheria			
Hookworm			
Leprosy			
Malaria			
Plague			
Rickettsial diseases			
Schistosomiasis			
Smallpox			
Tuberculosis			
Typhoid fever			
Venereal diseases			
Yaws			
HEALTH CENTERS			
Construction	86	9	77
Operation	107	74	33
HOSPITAL CONSTRUCTION	86	16	70
OTHER HEALTH SERVICES			
Operation - Laboratories	16	5	11
Mobile dispensaries and launches	12	3	9
Aid to Health Departments	20	16	4
Medical Care - Health Posts	262	99	163
Operation - Hospitals, Dispensaries	57	26	31
CONSTRUCTION - Other Health Facilities			
Dispensaries	25	2	23
Clinics	3	-	3
Laboratories	9	3	6
Medical Schools & Schools of Hygiene	5	-	5
Nursing Schools	5	2	3
Dormitories	12	2	10
Launches	3	-	3

TYPE OF WORK	Number of Activities		
	Total	Active	Completed
SANITATION			
Water Supplies	123	57	66
Sewerage	69	27	42
Community Sanitation			
Slaughterhouses	13	1	12
Incinerators	2	-	2
Laundries	16	-	16
Markets	7	3	4
Privy construction - rural sanitation	144	10	134
Other Sanitation	55	3	52
Engineering Plans and Surveys	78	45	33
INSECT CONTROL - DDT			
(Mosquitoes, flies, lice, etc.)	107	94	13
MALARIA CONTROL			
Permanent	140	5	135
Temporary	47	-	47
MISCELLANEOUS			
Construction	40	13	27
Doctors' Houses			
Lodging House (replaced)			
Offices for SCISP			
Playgrounds			
Restaurants			
Schools			
Warehouse			
Construction, Supplies, Maintenance, Repair	23	7	16
Medical Supplies and Equipment	12	2	10



## B. EDUCATION IN GUATEMALA

The purpose of the agreement signed on August 12, 1944, between the Education Division of the Institute (then known as the Inter-American Educational Foundation, Inc.) and the Ministry of Education of Guatemala, was to plan and carry out a re-organization of Guatemala's rural education system.

Guatemala, by far the largest Central American republic, exerts considerable influence throughout that region. Her population of over 3,500,000 includes some 400,000 children of elementary school age, of whom only 141,000, or about 35%, were enrolled in school according to figures compiled in 1945, and a large part of those in school were in the towns and cities. The illiteracy rate for the country was about 67%. Rural schools are few in number, inadequate in size, inappropriate, for the most part, for use as school buildings. Rural teachers are also in scarce supply; those in service have had, in a great many cases, no more than four to six grades of elementary schooling, and are so meagerly paid as to make it necessary for them to seek other part-time work to supplement their income. The curriculum has been the same as for the urban schools, and has been based upon the course of study in the schools of Spain and Metropolitan France. Instruction under the traditional system is entirely by rote--the teacher reading or reciting the lesson for the day to the pupils, who are then expected to learn to repeat it perfectly. The content of the traditional courses has no relation, for the most part, to the daily life of the community, or to the life problems which the children will face. Text-books have been virtually unknown, and even such equipment as blackboards, pencils and paper, generally are lacking. Sanitation and hygiene have been largely ignored. Seating and lighting arrangements in the school room are bad. In general, under the traditional system, the pupil came early to school and stayed throughout the school day without lunch--sometimes without benefit of breakfast, either. There was no adequate way of bringing school problems to the attention of Ministry officials, because the rural school system had no special officials in the Ministry whose function it was to advise on rural problems.

The basic agreement to establish the program provided for formation of a Servicio within the Ministry to be charged with responsibility for planning and executing the program. The Special Representative of the Education Division was to be named Director of the Servicio.

It was planned to start the program on a regional and exploratory basis, through organization of a rural normal school in the Cakchiquel region, where principles would be developed, put into practice, tested and demonstrated; and that the program would then be extended into other areas through establishment of other rural normal schools and through work in the rural schools themselves. The normal school was tentatively established in the plant of an abandoned agricultural school on the Finca La Alameda, near the town of Chimaltenango. Some emergency repairs and alterations were made, the staff of United States technicians, together with a few Guatemalans, took up residence there, and the first class of students was recruited from among the more promising Guatemalan teachers already in service.

In spite of the mild climate, and the beauty of the site, living conditions at La Alameda were a bit rugged. Rooms were small and few, with no provision for heat, nor running water, and some electric current at night only. Modern sanitation, of course, was completely lacking. Nevertheless, both North Americans and Guatemalans settled to their task.

That task involved, in the first place, the formulation of a guiding philosophy which should underlie Guatemalan rural education. The Institute's conception of the community-centered school won acceptance by the Guatemalan teachers and officials, and they proceeded jointly with the planning of a "functional" curriculum, in which

the courses which would be taught in the rural schools, and consequently in the normal schools would have a direct and intimate bearing on the life of the rural community. Personal, school, home and community hygiene, better methods of agriculture, fundamentals of proper nutrition, and the means to attain it--these were to be the central themes. The content of the 3 R's was to contribute to the overall purpose. Simple, balanced lunches were to be given the pupils, many of whom walked long distances to school; and in the normal school much attention was given to instructing the teachers in the importance of a balanced diet, and how to give it to their students--also how to instruct the parents. School gardens were planned for each rural school, where improved methods of agriculture within the reach of the rural population could be taught, new crops introduced, and some of the vegetable supplies for the school lunches produced; the resources of the Finca gave ample scope for students in the normal school to learn at first hand agricultural principles they would be expected to teach. Instruction in home economics, hand crafts, physical education, and recreational programs were closely allied to the central theme of rural home life, health and agriculture.

Side by side with development of the new curriculum for the rural schools, training had to be provided in teaching methods. The teacher-students at the normal school were trained to recognize the importance of proper seating and lighting in the classroom, of school sanitation and cleanliness. They learned to improve their teaching by the use of textbooks, blackboards, flash cards, tests related to the subject matter actually taught (that is, in place of tests prepared in Guatemala City for general use throughout the Republic, which had been the former practice), and pupil-participation and recitation in place of mere rote learning. They learned to grasp the relation between the school subjects and the daily life of pupil and community, and to direct their teaching toward applying that relationship.

A practice school was established at the normal school, attended by children of the students and of employees on the finca; later, a group of regularly established rural schools in nearby communities were also taken over as practice and demonstration schools, where the normal school students could gain experience in putting their newly-learned theory into practice.

Throughout, the Guatemalan teachers and supervisors in attendance at the normal school, and others who came in for short courses and summer schools, were playing their full part in the planning of the curriculum and of the teaching materials which support it. They helped to make equipment for the school room, and to devise means of constructing such equipment out of materials locally available. They learned to construct tests for their pupils' use; and in time, the Ministry called upon them to prepare and to administer tests for rural schools elsewhere--itself a significant departure from custom.

The teaching materials project has developed almost into a program of itself. A group of North American specialists, headed by the able writer, Ann Clark, has collaborated with a group of specialists drawn not only from Guatemala, but from Central American republics as well, in planning and preparing a graduated series of readers, and other materials, specially written to fit the Central American scene, in such a way as to make them easily adaptable to republics other than Guatemala, or even to be used in those republics without change. Workbooks, and other supplementary materials, are being developed along with the texts themselves, and it is expected that the new series will be in use by the opening of the school year in January, 1949

During the progress of the program, the plant at La Alameda has been considerably enlarged and improved, with better living quarters and living conditions generally for both students and faculty, and with improved classroom facilities. It has now been decided to establish the regional rural normal school permanently at La Alameda. At nearby Santa Maria Cauque, another plant is being constructed

because the program has revealed the lack of preparation, for many of the Guatemalan teachers in service, for entrance to the normal school. Santa Maria Cauque will therefore be used to prepare students for admission to La Alameda and to other rural normal schools, to be established later.

Meanwhile, in accordance with program plans, a new Division of Rural Education has been established in the Ministry of Education, and given a definite portion of the regular budget of the Ministry with which to work. Close liaison is provided between the new Division and the Servicio.

The phase of the program limited largely to work at La Alameda and its immediate vicinity is now complete. The first graduating class at the normal school has received its certificates, and the graduates are now either applying their work in rural schools in various parts of Guatemala, or are working with their North American colleagues on development of further stages of the program. Teachers not regularly enrolled in the normal school have been brought in for special courses or for "workshops"; and both North American and Guatemalan technicians connected with the program have made many visits to schools in other parts of the republic. Now comes the phase of expansion, in which it is hoped to extend the reorganization throughout Guatemala.

The "nuclear school" system already tried out in Bolivia and other countries has been introduced into Guatemala under the program. A "nuclear school" is selected, on the basis of its location, size and importance, and then some twenty schools in the neighborhood are grouped around it to form a nucleo, each member school of which receives from the central school the services of administration and supervision. This not only simplifies the administrative problem in general, at a saving in costs, but makes possible, through concentrating attention on the central schools first, the more rapid extension of the reorganization program into the other schools of the nucleo.

There are about 2000 rural elementary schools in Guatemala, and thus far only one rural normal school--that at La Alameda. The next phase of the program will provide for the organization of a few other normal schools to serve other regions (both from the standpoint of geography and from that of language), and for the extension of the work into the rural schools themselves through the nucleos. Twenty nucleos have just been set up, involving some 400 schools. Others will be organized as the program proceeds, though somewhat more slowly. The central schools of the nucleos, and some of the local schools, will be staffed, as far as possible, by graduates of La Alameda, until the newly-planned additional normal schools can begin to supply teachers and administrators.



## C. AGRICULTURE

December 31, 1948 marked the completion of six years of experience for STICA (Servicio Tecnico Interamericano de Cooperacion Agricola), the cooperative agricultural Servicio created in 1942 by the Paraguayan and U.S. Governments to work out solutions for Paraguay's agricultural problems. Organized as an integral part of the Paraguayan Ministry of Agriculture, STICA is staffed by both United States and Paraguayan personnel and is financed by joint contributions of the two governments. Under the terms of the present year's contract, the Institute contributes \$100,000 to program operations; Paraguay, \$357,087.

### BACKGROUND

Paraguay is a land-locked country possessing tremendous agricultural resources: a tropical climate suitable for production of most temperate and tropical zone crops, wide expanses of fertile soil awaiting development, abundant virgin forests, and one of the world's greatest concentrations of undeveloped hydroelectric energy. Despite these natural advantages, agricultural production is insufficient to satisfy domestic demands, much less to provide a surplus for foreign markets and to build up dollar supplies. Its subsistence-type economy, based on farming, cattle raising and timber exploitation, supports a population of over one million, most of whom know little of modern agricultural techniques. STICA's task has been to build a program, based on these conditions, which will serve as a beginning for an integrated agricultural economy.

### EXTENSION AND CROP DEVELOPMENT

#### SUPERVISED CREDIT

Such a program has now been established. Its nucleus is a Farm Supervised Credit Project established in 1943 by the Paraguayan Government with the assistance of STICA. This project encompasses all forms of financial and economic aid required for the development of Paraguayan farms and is similar in function to the Extension Service of the United States. By the end of 1948 it is anticipated that 5000 farm families will be participating in this service, which combines practical education with the power of credit to enable farmers to obtain the resources necessary for farm improvement. Through its facilities loans are extended for crop production, the acquisition of livestock and equipment, or the amortization of existing debts. Technical advice and supervisions are made available to help the loan recipients practice modern methods of agricultural development.

In accordance with the terms of the program's basic agreement, STICA helps to administer this project and trains the credit supervisors. Since the beginning of the project 90 supervisors have been graduated from the training school conducted at the National Institute of Agronomy.

#### NATIONAL INSTITUTE OF AGRONOMY

Creation of the National Institute of Agronomy was one of STICA's first undertakings. In addition to its function as a training center (there is no agricultural college in Paraguay), it is designed to serve as a base for Supervised Credit activities. Here improved seeds are produced, tested and labeled for distribution to the farmer-borrowers, and various experiments in crop production are conducted to determine the modern agricultural methods most adaptable to the needs of the country and the means of the farmers. During 1947 a plan was initiated to stimulate the future production and distribution of field and vegetable crop seed in Paraguay. This plan included the building of a laboratory and seed storage house at the National Institute of Agronomy at Caacupe, as well as the distribution of foundation stocks to



selected farmers, multiplication of the stocks by those farmers, field inspection, grading and testing, introduction of seeds from other countries, and seed distribution. Regular inspections are made of the crops grown for seed for the Agronomy Institute. Technicians are taking advantage of these periodic visits to discuss with the growers methods of controlling plant diseases and preparing inexpensive fertilizers and to promote the cultivation of green manure crops for their soil building qualities.

## TECHNICAL BULLETINS

During the period from July 1946 to August 1947 the Food Supply Division of the Institute was able to secure the aid of the head of Iowa State College's seed laboratory, Dr. R. Howard Porter, who acted as advisor to the Institute of Agronomy while a member of STICA's staff. Under his leadership the crop development activities of the Institute were greatly intensified and more than a score of technical agricultural pamphlets and circulars were issued for use of cooperating farmers. Patterned after the information bulletins of the U.S. Department of Agriculture, they represent the beginning of a national agricultural literature in Paraguay.

## MODEL COLONY

STICA has tackled the problem of redistributing some of the farm population, to bring into use some of the valuable, but idle, agricultural land in Paraguay. Fifteen farmers were chosen in June 1946 as the nucleus for a colonization project under which it is hoped that eventually 100 families can be settled near Piribebuy and taught to farm efficiently on 2000 hectares of Paraguay's most fertile soil. Seeds tested at the Institute and essential machinery are made available to these settlers at reasonable prices, road construction has been undertaken, and well-drilling equipment has been acquired in an attempt to solve the water supply problem. As a start toward establishing industries at the Colony, equipment for the manufacture of mandioca starch has been procured and construction of a factory begun.

Sixty farmers are now renting and working plots on the land, which has been divided in accordance with long-range plans for the area's development and which will eventually be owned by the colonists. A member of the U.S. Embassy staff in Paraguay who visited the colony in October 1947 reported:

"The work done so far is extraordinary. The farms themselves are little models.....They have some very nice looking crops and they are now starting to build homes for farmers who have remained on the property for at least two years and have proved their worth. These houses are also being put on a credit basis and will eventually be paid for by the farmer himself."

## HOME IMPROVEMENT

Another major activity of the Supervised Credit Service is the provision of assistance for the farm women of Paraguay.

**DOMESTIC WORK CENTER.** The first effort to provide such aid was made in October 1944 when a Domestic Work Center was established at Capiata (a village 25 miles south-east of Asuncion), by a member of STICA's staff. Subsequently two additional centers and two subcenters have been organized in other rural communities. Built along the lines of the typical Paraguayan farmhouse, yet incorporating easily-made improvements, these Centers afford country women and their families and opportunity to learn new methods and skills which make their homes more pleasant and healthful. Each is staffed by outstanding women of the community, especially selected and trained to provide basic instruction in the domestic arts, hygiene, child-care and nutrition.

Although the Domestic Work Center is a step forward in the movement to secure better homes for Paraguay's rural population, its usefulness is restricted to families living in the immediate vicinity. So the Credit program, under the guidance of STICA, set about to develop a corps of young women capable of going into the homes of borrowers, wherever they might live, and not only suggesting improvements but helping to carry them out as well.

**SCHOOL FOR SUPERVISORAS.** During the summer of 1946 plans were formulated to establish a school for rural women supervisors for this purpose and after weeks spent in surveying the needs of the country people and in handpicking a staff qualified to teach social work, agriculture, health and hygiene, La Escuela de Supervisoras Rurales opened on October 1 at Caacupe. After careful screening of scores of applicants, 35 young girls had been selected to train as Paraguay's first rural home supervisors. All spoke Guarani (the native Indian tongue), and had extensive practical experience in the home or in the field of teaching; each of them was a skilled horeswoman, since many borrowers live in country traversable only on horseback.

By January 1947 the theoretical and practical courses designed to equip the supervisoras to meet the needs and desires of the rural families of her territory were completed, and each was allotted a farm home for actual field practice. At the end of a month, improvement programs for 34 farm homes had been put into operation and three girls' clubs, similar to 4-H clubs, had been organized. Since that time 8 more clubs with an average membership of 25 girls have been started and all 11 are now functioning in Paraguayan districts.

A short time later, on the day before graduation for the girls, a tour of these farm homes was made by Government officials and others, who found that the standard of living in these 34 homes had been markedly improved in the course of a few weeks. Spontaneous remarks made by the various cooperating farmers and their wives expressed complete satisfaction with the program and with their new way of life.

The attitude of the officials making the tour can be summed up in the statement of the President of the Board of Directors of Supervised Credit: "What we have seen today surpasses even our most optimistic hopes for the rural home economics program. I knew that they had accomplished considerable, but again, what we have observed today, goes far beyond anything we were able to visualize."

In July 1947, STICA's director of the supervisoras program, was presented the Medal of "Honor al Merito" by the Paraguayan Government for her work in training these girls who now form the nucleus of a home improvement effort which may be a compelling force in lifting the nation's standard of living.

#### CATTLE DEVELOPMENT

Although probably more meat is consumed per capita in Paraguay than in any other country of the world, and while it is well known that the cattle industry constitutes the nation's largest source of revenue, methods of cattle breeding and care have undergone little if any modernization during this century. Consequently one of STICA's major efforts has been devoted to helping livestock owners adopt new techniques in this field.

**RANCH AT ESTANCIA BARRERITO.** At this 27,000 acre ranch with approximately 6000 head of cattle which is owned by the Government of Paraguay in the southern Misiones region, STICA conducts a visual demonstration in livestock breeding and

pasture management designed chiefly to help the country's larger ranch owners. In May 1947 a five-year breeding program at the ranch was inaugurated with the importation of Zebu bulls for crossing with Angus and criollo cattle, to develop a better local beef breed; sale of cattle raised here to farmers for improving their stocks keeps the ranch on a self-sustaining basis financially and makes possible the establishment of numerous improvements to demonstrate modern pasture management. These include facilities and planting of forage crops.

**MODEL FARM AND DAIRY.** Smaller cattle owners and farmers have been encouraged to adopt modern practices through demonstrations at the San Lorenzo model farm and dairy established by STICA in 1943 on property belonging to ENAME, the nation's secondary agricultural school. Organized to supply milk, dairy products and pork to the school and to the Asuncion market, the dairy farm has facilities for 100 cows while the pasteurization plant has a capacity of 2000 liters of milk a day, sufficient to make effective contribution to the local market but not large enough to be completely a self-sustaining enterprise. A unique institution in Paraguay, the dairy supplies the only bottled pasteurized milk in the country, besides serving as an educational center for dairymen in the Asuncion area. Offspring of the dairy's cattle, which are imported Holstein, are sold to Paraguayan farmers who will agree to follow the feeding system proved best by STICA and who will maintain milk production in accordance with dairy standards. These farmers are also encouraged to plant in their pastures the grasses which have proved most successful on STICA's farm.

Recently the cultivation of row-crops at the farm has been abandoned in favor of laying out all cultivated land in pastures. This will enable the dairy farm to function as an economical self-supporting unit.

**BREEDING SERVICE.** Another STICA service to cattlemen in the Asuncion area is the Puestos de Monta or Bull Ring Project, under which superior bulls for breeding are made available to cooperating farmers at 18 service centers. In connection with the establishment of these centers it has been possible to introduce new techniques for dairy sanitation. Farms to be used as puesto stations are cleaned and the cattle tested for tuberculosis and other ailments. Neighboring dairy herds are checked to assure 50 to 70 sound cows for each bull designated for service in a particular district. Within 76 working days one veterinarian, accompanied by a field assistant and a laboratory technician, cleared 993 animals for 49 such districts.

Additional aids offered by STICA in its cattle development projects include the preparation at the Model Farm of balanced feed for milch cows, the sale of immunized cows and heifers, and the services of an itinerant veterinary technician.

#### COMPLEMENTARY PROJECTS

Early in the development of STICA's program of agricultural aid it became apparent that certain projects were needed to complement those designed to help Paraguay's farmers directly:

**STORAGE.** Adequate marketing and storage facilities were lacking to insure proper use of the farmers' produce. In a survey undertaken in 1943 by STICA at the request of the Ministry of Agriculture it was revealed that absence of means for storage and refrigeration cost sub-tropical Paraguay thousands of dollars annually in damage by insects and climate and was one of the nation's important agricultural problems. STICA thereupon recommended the construction of grain elevators in major grain-producing areas and a 2500 ton cold storage plant and market in Asuncion, and a contract was let to a U.S. firm. The work on grain elevators located in Asuncion, Villarica, Encarnacion, and Paraguari, and on the storage plant and market is almost completed. Shortages of materials and labor difficulties have slowed down construction to a great extent, but it is expected that these buildings



can all be finished in the near future so that a year-round supply of perishable and semi-perishable food commodities can be insured, thus eliminating waste in marketing, improving quality of produce, and contributing to stabilization of prices.

**SURVEYS.** The almost complete lack of authentic statistics regarding Paraguay's geography and the mode of living of its people which existed when STICA began to work, made accurate diagnosis of its agricultural programs impossible. Project plans at first had to be based on impressions and deductions rather than on a scientific appraisal. In an attempt to secure accurate facts to be used as a basis for program planning, STICA has conducted a number of special surveys for the Paraguayan Government.

**FARM CENSUS.** An agricultural census, the first ever taken in Paraguay, was completed in 1947 by STICA's staff and is now being prepared for printing with the assistance of the U.S. Census Bureau and the Inter-American Statistical Institute. Presenting an over-all picture of Paraguay's farms, how they are operated and what they produce, this census is of help to officials planning the hemispheric census scheduled for 1950. During the first year's work on the survey, more than 100,000 small isolated farms were visited by a mobile corps of 1,135 census takers trained by STICA. During the following three years a staff of skilled workers with the aid of IBM machines compiled and summarized the vast amount of data collected. In order that the public might be informed of the progress of the census, agricultural statistics were released to the press by departments as it was compiled.

**SOILS.** In the final stages of completion is a survey of the main Paraguay soil types. Information obtained will provide the basis for a soil classification map showing Paraguay's significant soil characteristics, important vegetative types, principal adaptable crops, and a list of minimum practices necessary for soil and water conservation and increased crop production. Through the cooperation of the United States Army Air Corps, staff members working on the survey were flown over inaccessible parts of the Chaco areas and those regions just east of the Rio Paraguay to obtain data which would otherwise have taken a party of soil surveyors at least four years to complete.

**FORESTS.** Even though the forests of Paraguay have been exploited for several centuries, wooded areas still cover nearly half the entire area of the country. In an effort to assist Paraguay in planning the orderly development of its forestry industries, STICA completed a study of the forest resources of each department and district of the country. This includes information concerning the several forest zones, the total amount of timber available, the degree and manner in which the zones have been exploited, saw-mill facilities, cost of producing sawn lumber and other pertinent data. The report of this survey has been published as one of the Division's Special Reports. An additional discussion of Paraguay's forest products has also been printed as one of a series of STICA commodity reports, which include pamphlets on hides and leathers, sugar cane, coco oil, and vegetable oils.

**FOOD CONSUMPTION.** In order that more accurate plans could be made for the production of Paraguay's food requirements, it was decided early in STICA's program to conduct a food consumption survey for the purpose of collecting data on the types and quantities of food eaten and the nature of the dietary deficiencies in the country. Under the direction of a nutrition economist from the United States and with the aid of four Paraguayan women assistants, statistics were acquired over a period of two years and were then compiled and analyzed for issuance as a Special Report of the Food Supply Division.

**MEDICINAL AND AROMATIC PLANTS.** Among the serious difficulties which confront Paraguayan economy is the high cost of transporting its products due to the landlocked condition of the country. It is evident that permanent benefit would be derived from the establishment of a basic industry with an exportable product, the



volume of which might be small and therefore suitable for air transport, but of high unit value. For this reason STICA has for some time been conducting an investigation of the commercial possibilities of various plants indigenous to Paraguay which yield essential oils and of the prospects of introducing other such plants there.

Among these plants with which experiments have been conducted at the Institute and on several plantations near Asuncion are lemon grass, mint, patchouli, caraway, and vanilla. One of the most promising is a small plant yielding vegetable saccharine which lacks the undesirable characteristics of the coal-tar derivative. Another outstanding plant, known as Capii Cedron, has an essence of excellent quality that has aroused the interest of New York perfumers and may well provide a new source of revenue for Paraguayan farmers.

### SPECIAL ACTIVITIES

From time to time STICA is called upon by the Paraguayan Government to help in solving emergency problems or to provide short-term technical assistance of a highly specialized nature. Organizing a nationwide defense against grasshoppers and providing the services of a specialist to assist in the government's current rice production campaign are representative of this specialized phase of STICA's program.

**GRASSHOPPER CONTROL.** When grasshoppers invaded Paraguay a year ago control efforts launched at the Model Colony by a STICA technician proved so successful the Ministry of Economy asked the Servicio to organize a permanent technical service to check the spread of the insects and to prevent future plagues. Although this service was launched at least two months late, quick action on the part of STICA personnel substantially reduced anticipated crop losses. A countrywide defense plan has now been devised and dry poison bait, prepared under STICA supervision, has been distributed throughout the agricultural areas for use in the event of subsequent invasions.

**RICE PROMOTION.** Since the campaign was launched to make rice Paraguay's principal crop as a means to better nutrition and a more diversified economy, STICA has taken an active part in providing technical assistance to the Government planners. In July a U.S. rice specialist was added to the Servicio staff to serve as advisor on modern rice production methods and to direct the establishment of the Model Rice Colony which will serve as the center of the rice program.

### TRAINING

By means of action projects such as these in the fields of extension and crop development, home improvement and cattle development, storage and vital surveys, STICA has for six years demonstrated and offered training in the advanced techniques which must be employed to increase Paraguay's agricultural production and improve her standard of living. More important than the physical changes wrought as a result of this program the dairy and pastures of San Lorenzo, the fences and corrals at Barrerito, the gleaming Instituto buildings and terraced plots, the whitewashed, windowed farm homes or Colony houses, domestic work centers and credit offices are the ideas STICA has spread in its contacts with farmers and other young people. It has tried to teach new methods of approach, the value of "learning by doing", and the fact that the practical skills acquired in working with one's hands, while not superior to book knowledge, are indispensable complements to it. In its classes for rural credit supervisors and home improvement supervisoras, in its scholarships granting U.S. study for a small number of Paraguayans, and in its contacts with the men in the fields, it has tried to emphasize the need for and to train responsible, enlightened and experienced Paraguayan leaders who will be available to carry forward STICA's objective after U.S. technicians withdraw - the building of the agricultural economy Paraguay needs and can support.

**THE INSTITUTE OF INTER-AMERICAN AFFAIRS**  
**APPENDIX 2--RESPECTIVE CONTRIBUTIONS TO OPERATING AND INACTIVE PROGRAMS**  
(In Thousands of Dollars)

	Cumulative from beginning to June 30, 1946	Fiscal year 1947	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Total
<b>A. Programs in Operation</b>						
<b>HEALTH AND SANITATION</b>						
Institute contributions:						
Technical and other assistance...	\$ 4,556	\$ 1,328	\$ 1,277	\$ 1,613	\$ 1,561	\$10,335
Cooperative project funds.....	25,435	3,707	4,280	1,095	1,025	35,542
Total Institute.....	29,991	5,035	5,557	2,708	2,586	45,877
Host government contributions.....	10,019	6,031	10,059	8,678	8,685	43,472
<b>AGRICULTURE</b>						
Institute contributions:						
Technical and other assistance...	1,455	462	501	620	610	3,648
Cooperative project funds.....	871	128	364	375	375	2,113
Total Institute.....	2,326	590	865	995	985	5,761
Host government contributions.....	1,333	716	467	1,228	1,275	5,019
<b>EDUCATION</b>						
Institute contributions:						
Technical and other assistance....	168	393	426	712	687	2,386
Cooperative project funds.....	159	179	369	325	245	1,277
Total Institute.....	327	572	795	1,037	932	3,663
Host government contributions.....	403	493	637	997	960	3,490
<b>TOTAL OF PROGRAMS IN OPERATION</b>						
Institute contributions:						
Technical and other assistance...	6,179	2,183	2,204	2,945	2,858	16,369
Cooperative project funds.....	26,465	4,014	5,013	1,795	1,645	33,932
Total Institute.....	32,644	6,197	7,217	4,740	4,503	55,301
Host government contributions.....	11,755	7,240	11,163	10,903	10,920	51,981
<b>Inactive Programs</b>						
<b>HEALTH AND SANITATION</b>						
Institute contributions:						
Technical and other assistance....	571	133	19			723
Cooperative project funds.....	2,318	104	7			2,429
Total Institute.....	2,889	237	26			3,152
Host government contributions.....	622	125				747

**THE INSTITUTE OF INTER-AMERICAN AFFAIRS**  
**APPENDIX 2--RESPECTIVE CONTRIBUTIONS TO OPERATING AND INACTIVE PROGRAMS (Con't.)**  
(In Thousands of Dollars)

	Cumulative from beginning to June 30, 1946	Fiscal year 1947	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Total
<b>AGRICULTURE</b>						
Institute contributions:						
Technical and other assistance...	\$ 1,335				\$	\$ 1,335
Cooperative project funds.....	2,897					2,897
Total Institute.....	4,232					4,232
Host government contributions.....	2,485					2,485
<b>EDUCATION</b>						
Institute contributions:						
Technical and other assistance...	248	197	95	15		555
Cooperative project funds.....	36	100	80			216
Total Institute.....	284	297	175	15		771
Host government contributions.....	173	130	206			509
<b>TOTAL OF INACTIVE PROGRAMS</b>						
Institute contributions:						
Technical and other assistance...	2,154	330	114	15		2,613
Cooperative project funds.....	5,251	204	87			5,542
Total Institute.....	7,405	534	201	15		8,155
Host government contributions.....	3,280	255	206			3,741
<b>C. Grand Totals</b>						
Institute contributions:						
Technical and other assistance...	8,333	2,513	2,318	2,960	2,858	18,982
Cooperative project funds.....	31,716	4,218	5,100	1,795	1,645	44,474
Total Institute.....	40,049	6,731	7,418	4,755	4,503	63,456
Host government contributions.....	15,035	7,495	11,369	10,903	10,920	55,722

